U.L.L.
WITHDRAWN

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Yours very truly
Richd Tormichael

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THE DUBLIN

QUARTERLY JOURNAL

OF

MEDICAL SCIENCE;

CONSISTING OF

ORIGINAL COMMUNICATIONS,

REVIEWS, RETROSPECTS, AND REPORTS,

INCLUDING THE

LATEST DISCOVERIES IN MEDICINE, SURGERY, AND THE COLLATERAL SCIENCES.

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THE DUBLIN

QUARTERLY JOURNAL

OF

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FEBRUARY 1, 1851.

PART I.

ORIGINAL COMMUNICATIONS.

ART. I.—*Observations on the Nature and Treatment of various Diseases.* By ROBERT J. GRAVES, M. D., F. R. S.

(*Continued from* vol. iii. p. 347.)

SINGULAR DEFECT AND IMPOTENCE OF MEMORY AFTER PARALYSIS.

A FARMER in the county of Wicklow, in comfortable circumstances, when fifty years of age, had a paralytic fit, in the year 1839; since that time he never recovered the use of the affected side, and still labours under a painful degree of hesitation of speech. He is, however, able to walk about, take a great deal of active exercise, and superintend the business of his farm. His memory seems to be tolerably good for all parts of speech exept noun-substantives and proper names; the latter he cannot at all retain; and this defect is accompanied by the following singular peculiarity: that he perfectly recollects the initial letter of every substantive or proper name for which he has occasion in conversation, though he cannot recall to his

memory the word itself. Experience, therefore, has taught him the utility of having written in manuscript a list of the things he is in the habit of calling for or speaking about, including the proper names of his children, servants, and acquaintances: all these he has arranged alphabetically in a little pocket dictionary which he uses as follows: if he wishes to ask any thing about a cow, before he commences the sentence he turns to the letter C, and looks out for the word "cow," and keeps his finger and eye fixed on the word until he has finished the sentence. He can pronounce the word "cow" in its proper place, so long as he has his eye fixed upon the written letters; but the moment he shuts the book it passes out of his memory, and cannot be recalled, although he recollects its initial, and can refer to it again when necessary. In the same way when he comes to Dublin, and wishes to consult me (for my name is among the indispensable proper names in his dictionary), he comes with his dictionary open to the hall-door, and asks to see Dr. Graves; but, if by accident he has forgotten his dictionary, as happened on one occasion, he is totally unable to tell the servant what or whom he wants. He cannot recollect his own name unless he looks out for it, nor the name of any person of his acquaintance; but he is never for a moment at a loss for the initial which is to guide him in his search for the word he seeks.

His is a remarkably exaggerated degree of the common defect of memory, observed in the diseases of old age, and in which the names of persons and things are frequently forgotten, although their initials are recollected. It is strange that substantives and proper names, words which are the first acquired by the memory in childhood, are sooner forgotten than verbs, adjectives, and other parts of speech, which are a much later acquisition.

A lady about fifty years of age, who was labouring under what is popularly termed a breaking up of the system,—that is, a simultaneous decrease in the energy of all the vital func-

tions,—showed among the first symptoms a defect of memory similar to that which I have related above. The first name which she was perceived frequently to forget was that of a family with whom she was very intimate, and whom she saw almost every day, and she was much tormented by this defect, whenever she had occasion to refer to any of its members in conversation. After a time this defect extended to the names of other persons and things; in the course of a few months she lapsed into a general want of memory, and weakness of intellect.

It is interesting to compare such cases with the temporary loss of memory which is produced by inebriety, and the permanent loss of the same faculty that shows itself in old age. Such a comparison proves that diseases of the brain occasion a defect of memory, which is but an exaggeration of that observed in old age and in inebriety; and it is, therefore, to be attributed not to any affection of any particular portion of the brain, but to a general derangement of the cerebral functions. Some medical men are inclined to think that where, under such circumstances, the memory is very deficient and the intellect weak, softening of the brain exists; but the preceding observations show that such a conclusion is derived from a very partial view of the subject, inasmuch as the patient, whose case I have first referred to, is still living, and is much in the same state that followed the paralytic stroke eleven years ago.

The effects produced on the memory by paralysis are by no means proportionate to the loss of muscular power that the disease gives rise to; and the same disproportion exists also with respect to the generative powers. Thus I have known several cases in which young men who were attacked with apoplexy and hemiplegia, from which they recovered with a very imperfectly restored muscular power of the limbs and speech, became subsequently the fathers of several healthy children. On the other hand I have seen two cases where the cerebral attack was so slight as not to produce more than a

transitory giddiness, a passing feeling of terror, and some hesitation of speech, with a little subsequent numbness in the arm and cheek, and slight weakness of the leg at the same side. All these palpable symptoms passed away within twenty-four hours, leaving behind scarcely an evident trace of diminished power in the limbs, and no impairment of any of the senses, articulation, or memory; yet the cerebral attack occasioned, from the very moment of its occurrence, a complete impotency, which in both cases has been for many years permanent, although, as I have said before, both individuals are in other respects quite healthy.

PARALYSIS AFFECTING THE TEETH.

In a former paper I remarked that although the teeth are possessed of an exquisite sense of touch, and are frequently the seat of intense pain, yet no one (as far as I could ascertain) had observed in paralysis a loss of sensation in the teeth. I have been for years on the watch for this symptom, and have at length detected it in a gentleman who has had several attacks of hemiplegia, each accompanied by complete numbness of all the teeth at one side of his mouth.

LETHARGY.

It is curious how certain derangements of the functions of the brain occur, without being accompanied by other notable symptoms of disease. Thus I know a gentleman advanced in life and of plethoric habits, who has been for several years affected with lethargic symptoms, but without any headach, tendency to paralysis, or impairment of his general mental energies. He is frequently attacked, however, even at his meals, with unconquerable sleepiness, and it is surprising how suddenly it comes on; thus he will be sitting, talking quite cheerfully, and unexpectedly he drops into a sleep, which lasts for about half a minute or a minute, and then he arouses himself and continues awake for a few minutes longer. This happens so often that he cannot now venture to go into company.

And, as I have said before, this drowsiness comes on so quickly that at one meal he has broken three or four glasses by becoming unconscious after the act of filling the glass, and during the time he was raising it to his mouth. He was consequently obliged to have an attendant to watch him going to bed, lest he might fall asleep in an inconvenient place or position, or might endanger the safety of the house by allowing the candle to fall. Whether his immunity from other symptoms arises from a seton in his neck, which he was advised in London to have inserted, I cannot tell; but this state of the cerebral functions, existing so long and without any additional symptoms, is very curious.

NEURALGIC RHEUMATISM.

In December, 1848, I was called to see a gentleman of middle age and robust constitution, who was attacked by a very singular variety of "neuralgic rheumatism." He had caught cold from wet feet, and was seized with feverish symptoms, and violent pains in the nerves of the lower extremities. All the muscles of the thighs, calves, legs, and feet, seemed to be more or less affected, and the pain was most agonizing, being accompanied by spasms of the muscles, in violence and intensity resembling those witnessed in Asiatic cholera. I caused the affected limbs to be constantly stuped with a decoction of poppy-heads, and rubbed with an oily narcotic liniment. Finding, however, that the relief obtained by these means was only partial, I gave him internally large doses of Dover's powder combined with James' powder, and took blood from his arm; and I caused the lower extremities to be bandaged carefully, commencing at the toes, and proceeding upward to the thighs. These means were effectual, and cured the disease in less than two days; but after the pain had ceased there was, however, (as might be expected), some loss of power in the extremities for a short time. This was the second time that the patient had been attacked in this singular way.

I have seen a person nearly suffocated by acute pleurodynia,

when this disease attacked the intercostal muscles of both sides of the chest, and I have no doubt that suffocation may happen from the spasms of cholera when they attack the muscles of respiration generally, or those of the glottis in particular.

Thus I recollect attending, at Merrion, in 1834, with Mr. R. Wilkinson, of Blackrock, a lady affected with Asiatic cholera, in whom the spasms of the intercostal muscles at both sides were so continuous and so violent,—and in whom, consequently, the respiratory movement was proportionately painful, that the affection had nearly proved fatal by the impediment it threw in the way of the motion necessary for carrying on the act of breathing. Among the numerous patients whom I have seen affected with cholera, this was the only case where the spasms occupied the intercostal muscles.

ATONIC GOUT.

The following case exhibits some interesting particulars as to the causes which are capable of exciting gout in a constitution hereditarily predisposed to that disease. A watch-glass maker, of regular habits and steady conduct, enjoyed a robust state of health until he arrived at the age of eighteen years, when he undertook a journey to America, and was constantly sea-sick for the first five days of the voyage; at the end of which time the constant throwing up of bile and the nausea ceased, but gout suddenly appeared in both his feet, and the characteristic redness and swelling of the balls of the great toes were accompanied by agonizing pain. Among the books which he had taken with him was a copy of "Buchan," in which he found it recommended to take abundance of wine, in order to keep the gout out of the stomach. He followed this advice, and in about a week the gout left him, and he was perfectly well when he arrived at New York, after a voyage of twenty-three days. He had no fit of gout for twenty-three years after; since then, however, he has had repeated attacks, and I am now (19th January, 1849) attending him, in his sixtieth year,

in a violent paroxysm of the disease, occupying both feet and one of his knees. The causes which brought on the gout in his first attack are interesting, inasmuch as the circumstances of the case prove, first, that a nausea and vomiting, continuing several days, accompanied, as always happens in sea-sickness, by an unusual discharge of bile, is not capable of preventing an attack of gout. Secondly, that the operation of whatever debilitates the system predisposes the patient to an attack of gout. Upon this subject Dr. Todd has made some very judicious observations in his treatise on gout. Thirdly, we may learn from the particulars of this case that the treatment adapted for gout differs much from that to which we have recourse in rheumatism and other inflammations. I lately saw a striking illustration of this in a gentleman whom I was attending with Mr. Hamilton. We had been obliged to exhibit mercury rather copiously for the cure of certain venereal symptoms, and had brought on a profuse salivation. Two days after the salivation had commenced our patient was attacked with a violent and regular fit of podagra in the ball of the right great toe; this fit lasted several days, during the whole of which time the salivation continued.

It is worth remarking that a hereditary disposition to gout may lie dormant in the system during a long series of years. Of this I saw a remarkable instance in a lady upwards of seventy years of age when I first commenced my attendance on her. Her parents had been martyrs to gout, and the dyspeptic symptoms, of which she chiefly complained, were such as are often observed in gouty persons. Accordingly, I gave it as my opinion that she had a gouty diathesis. This opinion was not verified until she had attained to the age of eighty-two years, when she had a violent attack of gout, first in her right foot, and afterwards in her left.

Dr. Neligan has furnished me with an illustrative example of this fact in the case of the Hon. E. M., in whose family gout has long been an heir-loom. His first attack occurred when he

was in his seventy-first year, and he died, from a third attack, in about three months afterwards; his sister, also, was attacked with the disease, for the first time, in her sixty-fifth year; yet several members of his family, amongst others his only son, were martyrs to gout from their youth.

A fact I observed very lately tends also to corroborate the opinion that the local inflammation of gout may be induced by debility: a gentleman dying of long-continued diarrhœa, combined with a dropsical tendency, was seized with podagra forty-eight hours before death.

EFFECTS PRODUCED UPON THE STOMACH BY GRIEF.

In the first Series of this Journal I described some cases which exemplified the effects produced by nervous agitation upon the functions of certain organs, and afterwards upon their textures.

The first case was that of a young lady, residing in Camden-street, who was frightened at night by a sudden fire, which threatened to destroy the house in which she lived. During the moments of danger she got a pain in the stomach, which recurred frequently for several months, and finally was succeeded by symptoms of ulceration in that organ, from which, nevertheless, she unexpectedly recovered. Several years afterwards she died of another disease. The body was examined by Dr. Ireland and myself, when we discovered that a very large ulcer had existed in her stomach, which had afterwards healed, but which, in the first instance, was prevented from discharging the contents of the stomach into the abdominal cavity by adhesion with one of the neighbouring viscera, caused by effused lymph.

The second case was that of a young and healthy lady, over whose shoulder a musket was suddenly discharged in frolic by an inebriated man. She fell down in a fit of hysteria from the fright, became subject to violent palpitations of the heart, and died in the course of some years, labouring under the effects of

general dropsy, produced by heart complaint. I examined her body, and found great enlargement of the heart, and various organic changes in the valves.

I have lately seen a case analogous to this, and which exemplifies, in a manner equally striking, the effects of the mind on the body. A grocer, of very healthy constitution and full habit, became suddenly involved in pecuniary difficulties, having, in consequence of railway speculations in 1847, lost a large sum of money, and not been able to meet his engagements. He experienced, from having been perfectly healthy, a total disappearance of appetite and a loss of sleep, which afflicted him for several weeks. His appetite he scarcely at all recovered; he became emaciated, and at times feverish. But after a few months he began to feel transient pains in his stomach, together with a sensation as if something was turning or moving in it. These pains latterly became more frequent, and the progress of the disease uninterrupted, exhibiting in its course all the symptoms of organic disease of the stomach. It is now two years since it commenced, and large tumours are to be felt in the neighbourhood around the pyloric orifice of the organ. The tumours are hard and scirrhous; he is emaciated to the last degree, and his case is evidently hopeless.

EPIDEMIC OF MUMPS.

In December, 1848, and January, 1849, the mumps, *cynanche parotidæa*, became suddenly epidemic in Dublin, attacking both middle aged and young persons, in the city and adjoining districts. The outbreak of this epidemic was very sudden and remarkable; and although in most cases the sources of contagion could be pointed out, yet in many families the most accurate investigation failed in discovering the manner in which the individual first affected had contracted the disease.

As cynanche parotidæa is confessedly a contagious disease, the epidemic in question exhibits two important features: first, the sudden manner in which a contagious disease which has

long lingered in society in a subdued, and, as it were, a latent form, blazes out into an epidemic, when a state of atmosphere favourable to its propagation occurs. In the instance before us the weather during the whole time of the prevalence of the disease was remarkably mild, and almost unintermittingly damp and rainy. The temperature was equable, and the moisture of the air extreme. The only variation was an alternate calm and stormy state of the atmosphere; for during these two months, calm and stormy days succeeded each other in a very extraordinary manner.

The second point worthy of observation is connected with the appearance of the disease in families where the contagion could not be traced. It is on similar cases that the anti-contagionists, as regards the propagation of cholera, chiefly rely.

But the argument thus derived from negative evidence appears to me (as I have elsewhere remarked) to be totally inconclusive. It proves, in fact, too much; and would lead us to reject the contagiousness of mumps, small-pox, scarlatina, and all other diseases, the infectious nature of which is most undoubted. It may be worth observing, that in this epidemic of mumps, several of the adults infected by the disease were attacked with great severity, and laboured under no slight febrile symptoms,—symptoms which continued for several days after the swelling of the parotid glands disappeared, so that the patient could not be pronounced convalescent until about the fourteenth day. I did not see any fatal cases; but some of my patients were so ill, that I could not consider their condition to be unattended with danger.

Metastasis to the testicle I observed in one case: it took place quite suddenly, and in the mode of its attack strikingly resembled another case at that time under my care, in which inflammation of the testicle came on during the last stage of gonorrhœa. In this gentleman nothing but rest and the antiphlogistic treatment had been employed, and the discharge had become quite slight, and unattended with pain for more than

a fortnight. This and other similar cases have awakened in my mind the suspicion, that inflammation of the testicle is, in gonorrhœa as in mumps, a part and parcel of the disease, of unfrequent occurrence, it is true, but, when it does occur, not dependant on the degree of urethral irritation or its treatment.

INFLAMMATION OF THE LARYNX, FROM ACCIDENTAL CAUSES.

The three following examples of inflammation of the larynx, brought on by accidental contact with irritating substances, may not prove uninteresting. On the 20th September, 1849, I visited a lady labouring under premonitory symptoms of cholera, and prescribed the acetate of lead and opium pills in my usual form; they were quite effective in stopping the further progress of the disease, but one went the wrong way, or, in other words, in the attempt to swallow it, passed into the larynx, and thus gave rise to fits of coughing frequently repeated, until at last it was expectorated. These pills, being soft, were easily dissolved, and consequently, though the foreign substance remained in the air passages but a short time, yet that time was sufficient for the contact to give rise to an inflammatory affection of the mucous membrane of the larynx, and a consequent hoarseness, which lasted for nearly a week. In this case, the irritative substance was the acetate of lead undiluted.

In the case I am about to mention next, irritation was caused by the vapour of nitric acid, and the occurrence took place in the following unexpected manner. I was requested, at the desire of Dr. Mahood, of Kingstown, to see an old lady labouring under chronic bronchitis. Amongst other remedies I advised the application of St. John Long's liniment to the chest; it was sedulously applied night and morning. The room in which the patient lay was small; and a child, about two years old, slept in the bed next her, and was exposed to the inhalation of the air tainted with the vapour of the liniment; laryngeal cough was the consequence; it lasted for a few days, but was

immediately diminished by the child being removed to another room.

In the third case, more serious consequences had nearly followed a somewhat similar accident. I was attending, with Mr. Hans Irvine, a gentleman who had a chronic enlargement of the liver, and we advised the application of a nitro-muriatic acid lotion. His mother procured a bottle from a neigbouring apothecary, who marked it "concentrated nitro-muriatic acid"; she proceeded to mix some of this with water, for the purpose of making the lotion; when the fumes arising from the bottle caught her breath, and produced inflammation of the larynx, and of the bronchial tubes, which had nearly proved fatal. I blame myself for not having taken the precaution to order diluted acid to be used in making the lotion.

MALIGNANT FEVER OF EXTREME VIRULENCE.

On the 3rd of January, 1850, I saw a young woman, aged about eighteen years, who had previously enjoyed tolerably good health, and appeared to be sufficiently robust and *embonpoint.* On the night of the 2nd she was suddenly seized with pains in the stomach and bowels, and constant vomiting, preceded by rigors and symptoms of fever. When I saw her, the tongue was extremely parched, and her pulse frequent; she complained of a sense of tension about the face, and disagreeable creeping itchiness of the skin of various parts of her body; so that I expected the formation of erysipelas of the face and head. On the following day I found her affected with an extraordinary symptom, viz., a blackness around the eyes, perfectly well defined; first, on the upper lid, then extending to the lower, in such a way that she appeared as if looking through a black circle. This blackness appeared as if it had been put on with a camel's-hair pencil, and resembled exactly that which occurs in ecchymosis from severe bruises. She had an eruption on her skin similar to measles, but dark-coloured. In a few hours she died of hemorrhage from the

kidneys. This, I think, is the most rapidly fatal case of hemorrhagic fever that I ever witnessed.

DIFFUSE INFLAMMATION.

The danger of diffuse inflammation is too familiar to the profession. One variety of it seems, in the first instance, to combine the peculiar spreading character of this inflammation and the exquisite pain observed in phlegmasia dolens: of this I have seen many examples. The swelling, like that of phlegmasia dolens, is unattended with redness, but accompanied by heat; and the inflammation appears to diffuse itself speedily in the subcutaneous areolar tissue, where a serous fluid is deposited as the inflammation spreads.

Two years ago I witnessed a fatal result in the case of a very healthy young lady whose right foot was excoriated by the binding of her shoe while walking; she neglected the slight abrasion, and walked for several days in continuance, wearing the same shoe. She was in perfect health at dinner time on the fourth day, but on going to bed she complained of a sudden accession of pain in the right foot, with heat and some swelling, but there was no discoloration. The foot was bathed and stuped, but she passed the night in great agony. At 2 o'clock the following afternoon, or about eighteen hours after the commencement of the disease, I first saw her, when she was raving; her pulse could scarcely be counted; and the swelling had extended above the middle of the thigh. I immediately requested the assistance of Sir Philip Crampton, who saw her in consultation with me, but she died within twenty-four hours.

This case left a very melancholy impression on my mind, and convinced me of the necessity of urging active measures in the very commencement of the disease. Their efficacy I lately had an opportunity of proving. A lady who had a bunion on the right foot occasionally complained of swelling in that part, and now and then a drop of fluid issued from its

surface. When any aggravation of this annoyance took place, she was in the habit of resting the foot for a few days, and using a loose, soft slipper. In spite of these precautions, however, the bunion one day became a little inflamed, but not so much so as to attract any serious attention. At bed-time, however, she was suddenly attacked with pain, so intense that she was obliged to scream out, and could no longer walk; her stocking was taken off with the greatest difficulty, when the instep was found to be swollen, white, and hot, and so intensely painful that she could not bear the touch of a camel's-hair brush without screeching. I happened to be attending another member of the family, and was in the house at the time. I immediately apprehended the greatest danger, and was determined to use active measures, in hopes of suppressing the disease at the commencement. While leeches were being procured, I could observe an evident increase in the size of the swelling and its progress towards the ankle. I should have observed that the sole of the foot was as acutely tender as the instep. I directed the application of relays of leeches, six at a time, to the most painful parts, and sent for Mr. Cusack, who concurred with me in thinking that if the disease was not speedily arrested, it would prove fatal. Three relays of leeches and emollient poultices, however, stopped its further progress. The first set of leeches scarcely drew anything but serum, tinged with a small portion of blood; from the punctures of the second set, a fluid more decidedly sanguineous issued; and the bites of the third set were followed by blood of the usual appearance.

SPONTANEOUS FORMATION OF POISON IN THE HUMAN BODY.

On a former occasion I detailed the particulars of several cases which seemed to prove that wounds and accidents affecting external parts may give rise to symptoms plainly denoting the operation on the constitution of a poison manufactured, if I may use the expression, in the injured skin and

subcutaneous tissue. The following facts corroborate that conclusion.

A healthy child, the daughter of a friend of mine, scratched her nose with a blunt nail. The wound inflamed, and subsequently festered, and in several days after, the face, forehead, and at a later period the trunk, became more or less covered with an eruption somewhat resembling ecthyma. The child got well in a fortnight, under the local application of soothing remedies and the internal use of lime-water with milk, which was given to obviate a looseness of bowels that followed the appearance of the eruption. It is curious that the matter from the pustules infected three of her little nursery play-fellows. As soon as this fact was noticed, the children were separated from each other, and the nascent pustules were checked in their progress by applying a weak solution of nitrate of silver. They all recovered. The case is interesting, as affording an additional proof, not only that an injury may cause the human body to manufacture a poison capable of infecting the constitution of the individual, but that the matter so formed may be capable of infecting by contact other persons.

In the case of Miss G——, aged sixteen years, who laboured under fever, bed-sores formed on the sacrum and hips, which gave much trouble and were very obstinate; but, notwithstanding, there seemed to be some chances of her recovery, when, on the twenty-fifth day of her fever, during the nocturnal delirium, she bit off a large portion of her right thumb nail, and injured it to the quick; it inflamed rapidly, and the finger swelled, the lymphatics of the right arm became indurated, and the whole extremity swollen. After a few days the body was covered with large vesicles, many of which were confluent, and contained an opaque whitish serum; there was also an increase of constitutional irritation and of fever. She died on the thirty-second day. In this case it is doubtful whether

the poison originated in the bed-sores, or in the injured thumb.

I saw, in the spring of 1848, another young lady who laboured under typhus fever, and who, after a long struggle, was apparently about to undergo a favourable crisis, when suddenly the skin of her scalp, that had been blistered previously, and had healed but imperfectly, became erysipelatous. The disease spread slowly at first to the forehead and eye-lids, in which matter formed abundantly, and was after some days let out with the lancet. The erysipelas now extended to the neck and between the shoulders, assuming daily a more unfavourable character, and producing, as it spread, much subcutaneous œdema attended with the formation of sero-purulent matter, as is usual in cases of diffuse inflammation. Her state became rapidly worse, vesicles containing sero-purulent matter formed on her skin, and at last many of her joints, both large and small, became the seats of puriform deposition shortly before her death.

I think I have been able to trace many of the symptoms observed in *rupia cachectica*, and in the worst forms of secondary lues and pseudo-syphilis to the operation of a poison formed in irritated ulcers, whether in the throat or other parts. Hitherto pathologists have considered these constitutional effects to be the result of a poison introduced into the system from without. I hope on a future occasion to discuss this important question with the care it deserves.

ANIMAL FOOD IN DYSENTERY.

In an excellent paper by Dr. Mayne, published in the last number of this Journal, some judicious remarks are made respecting the utility of tender animal food in dysentery, after the first stage of active inflammation has passed, remarks strongly corroborating what I have already written on that point of practice, and the accuracy of which is confirmed by the following passage, taken from a very interesting work entitled "The Shoe and Canoe," by John J. Bigsby, M.D.

" Donkin's preserved meat is an admirable substitute for the recently killed animal. A transport between the tropics, full of soldiers and their families, under my medical charge, became generally attacked with dysentery, *against which medicine seemed powerless.* In the course of three or four days I distributed among the soldiers 750 pounds of Donkin's preserved meat, and the disease ceased. We landed six weeks afterwards at the Cape of Good Hope, a sound ship."—Vol. ii. p. 204.

MEDICAL EFFICACY OF ANIMAL AND OTHER ORGANIC OILS.

No more efficacious addition has been made to our list of remedies, than cod-liver oil. Its utility has been amply confirmed in my own practice since I wrote specially on the subject in my Clinical Medicine; and its virtues are so great as to be almost incredible when we consider its apparently simple nature.

This fact should prevent us from being altogether incredulous when we hear of other organic oils and fats being used with advantage in certain diseases: thus, in South America many healing virtues are attributed to the oil extracted from the Condor: and in the United States, the back-woods-men are said to use the oil extracted from the rattle-snake, for the cure of many diseases. To these last I have to add the effects of a broth or decoction made from the common Ray (Raia clavata) which is used in the Highlands of Scotland for the cure of scurvy and rickets, and with considerable advantage. The remedy is also popular in Ireland, in the vicinity of Skerries. It is made by boiling down the fish in water until a broth results, strong enough to gelatinize on cooling. The patient is bathed in this gelatinous fluid three times a day, and the affected parts are rubbed with the luke-warm melted jelly frequently.

I knew an instance of a child, far gone in rickets, emaciated, with the joints enlarged, and all the symptoms of the disease well marked, who was cured by a tepid bath of sea-water every morning; and when the skin was dried after the bath, the spine

and swollen joints, with all the parts in the immediate vicinity, were well bathed and rubbed with a decoction of the Ray prepared as above.

A young lady whom I attended, and who laboured under some constitutional delicacy, was affected with weakness in her lower extremities, and pains of a wearisome nature in her back, thighs, and legs; she was cured by the same remedy, after various other means which I had used had proved totally inefficacious.

In Frazer's Magazine for November, 1850, there is an interesting paper, "Leaves from the Note-Book of a Naturalist," in which is cited a passage from Pliny, as translated in the quaint language of Philemon Holland. The passage is very remarkable, as proving how long the utility of animal oils, in scrofula, has been known. Pliny, speaking of turtles, observes:—"If their flesh be eaten, together with the broth in which they are sodden, it is held very good for to discusse the king's evil, and to dissipate or resolve the hardness of the swelled spleen."

The naturalist also quotes an old French author, as follows:—"Labat tells us that those who go to the turtle islands, to fish for the green and hawk's-bill turtles, live on the flesh of turtles *only* for three or four months, without bread, without cassava, with nothing, in short, but the fat and lean of the animals; and he declares that, whatever maladies these men may have when they set out upon this expedition, even if they should be affected with the most loathsome, they return perfectly cured."

THE THERAPEUTICAL POWERS OF ACONITE.

Although the medicinal properties of this plant have been long ago described by continental authors, yet we are much indebted to Professor Fleming (now of Queen's College, Cork) for the accurate observations and cases which form the basis of his treatise on its virtues, a treatise to which must be ascribed its general introduction into medical practice in Great Britain.

I still continue to find it useful in certain obstinate cases of neuralgia; while in other cases of this disease its effects have disappointed me: however, this is all that can be expected from any medicine which acts upon the nervous system. It is impossible that it could invariably produce beneficial effects, yet the practical physician will be satisfied if it exhibits its powers in a given proportion of cases.

Aconite failed to give relief in the case of a lady labouring under chronic lumbago and sciatica, although it was pushed as far as prudence would allow. Its failure in this case disappointed me much; but at the same time I may remark that there was something in this lady's malady which rendered it particularly intractable, and caused all the medicines that were employed to produce little or no good effect until, after many months, I tried strychnia internally, which proved a speedy and perfect cure.

In another case, in which the patient, a middle-aged gentleman of robust constitution, suffered from a cutaneous neuralgia affecting various parts of the skin at different times, and not sparing any part of the body, so as to render his life miserable during the paroxysm, the aconite likewise failed, as did all other remedies. The result was more encouraging in the following cases:

I attended, with Mr. Nicholls, of Dawson-street, an officer aged about sixty-five years, who long laboured under the effects of hereditary gout, and who sent for me during an excruciating gouty neuralgia, affecting the nerves on one side of his face. He was speedily and completely relieved by the tincture of aconite, applied locally.

I attended also, with Mr. Nicholls, a gentleman from Roscommon, who was attacked with rheumatic fever during a temporary residence in Nassau-street; in the latter part of the fever he was tortured by pains darting from the front to the back of the chest, or *vice versâ*, or else from one side to another, in fact these pains occupied successively nearly the whole ex-

tent of the diaphragmatic attachments In this case the aconite proved itself a most valuable auxiliary remedy; as it did likewise in a very similar case that I had in Harcourt-street, which I attended along with Surgeon Adams. In the latter instance it is necessary to remark, that the gentleman had been frequently cupped over the seat of the pains with relief; and that he was, at the time of taking the aconite, in a debilitated state; under these circumstances eight drops of the tincture, given in the morning, and repeated in four hours afterwards, seemed suddenly to check the pains; but it at the same time brought on indistinctness of vision, a failing of the pulse, and a diminution of general heat, which were for the moment very alarming symptoms, but yielded in a few hours to stimulants, such as brandy and wine. No bad effect remained; but the specific action of the medicine deterred us from having recourse to it again, when the diaphragmatic pain returned in two days, though with diminished violence.

Art. II.—*Practical Observations on some Affections of the Male Urethra.* By Samuel G. Wilmot, M. D., F.R.C.S., Surgeon to Steevens' Hospital, Lecturer on Surgery in the Original School of Medicine, Peter-street, &c.

All practitioners, as well physicians as surgeons, are too apt to give their almost undivided attention to diseases palpable in their features, and manifest in their results as to treatment, while affections, perhaps, no less annoying to the mind and distressing to the body, though of small importance only, in a relative degree, are, owing to their obscurity, either altogether neglected, or, if considered, not studied with the same regard to accuracy. To this cause we may in a great measure attribute our failure in combating many of those symptoms which in our ignorance we designate "anomalous" or "equivocal;" and upon the same account it is that we feel so frequently obliged, in order to screen ourselves from discredit, to resort

to the specious excuse, that the malady has no real existence; and hypochondriasis is referred to as the origin and support of the patient's complaints.

Regarding the urethra as the seat of disease, all are fully familiar with the pathology, morbid consequences, and treatment of its leading affections; but there are many of its diseases most harassing to both patient and surgeon, which are generally neither recognized with precision, discriminated with accuracy, nor treated successfully.

A case of stricture or diseased prostate is at once treated in a scientific, definite, and effectual manner, because being acquainted with the exact nature of the morbid lesion, the practitioner can strike at the root of the evil; but how frequently do we find what may be termed the minor urethral complaints prescribed for without the least reflection, as to whether they are primary or merely sympathetic, or whether they be or be not connected with some particular vice or diathesis in the system.

We sometimes meet with cases which answer to the following description: a man complains that he has been annoyed for a long time with a constant discharge of watery matter resembling whey, from the urethra, and a tickling or hot sensation when he passes urine. He states that all the symptoms are heightened when he drinks spirits, has sexual intercourse, or exposes himself to wet, cold, and fatigue; and that frequently, without any assignable cause, he is seized with inflammation of the canal, which assumes all the characters of acute gonorrhœa. If we question the patient, he tells us either that he never had gonorrhœa, or if he had, that the interval between the complete cure of the latter, and the supervention of the symptoms now detailed, has been so long as to remove the least rational supposition, that the one could be the sequel of the other. When we examine the urethra, the first thing which attracts our attention is a pouting of the lips of the orifice, which, however, does not present a circular shape, as in

gonorrhœa, but appears flattened laterally, as if it had been tightly compressed between the fingers. If we expand the orifice, the mucous membrane, as far as can be seen, exhibits a highly vascular and granular condition, which can be compared to nothing better than to the palpebral conjunctiva in granular ophthalmia; and I believe that the same condition occupies the entire length of the canal, as far at least as the bulb. If we introduce a No. 8 bougie or catheter, we find that the patient experiences pain on its first entrance, and all along the passage, but particularly when it arrives at the bulb, where we in general become sensible of a soft spongy obstruction; a little pressure on the instrument, however, will make it surmount what appears to be a slight eminence.

Now I look upon this affection as essentially strumous, and it may be termed strumous urethritis. Though independent of gonorrhœa as its cause, this morbid affection is very frequently preceded by that specific complaint which glides gradually into it through the medium of gleet; whenever, therefore, we have a case of protracted gleet in a person of well-marked strumous disposition, we may apprehend its termination in the slow and obstinate disease just described.

When the case is allowed to progress, the bladder very frequently becomes engaged, its irritability is greatly increased, and the quantity of purulent deposit in the urine declares that the urethra alone cannot furnish it all. Whether the lining membrane of the bladder ever becomes degenerated in the same granular manner, I cannot say, not having had any autopsical opportunity of ascertaining the point; but that such may be the case appears a rational conjecture.

The urine I have generally found to be neutral; often, however, it is slightly acid, and sometimes faintly alkaline, and by the microscope more or less pus globules are always detected in it. The colour is usually of a slight milky hue which renders the appearance cloudy, and on the application of heat a small albuminous precipitate is very often thrown

down. The source of the albumen it is necessary, if possible, to know; it may arise merely from the admixture of pus with the urine; or it may owe its origin to the kidneys; for I believe that, after having been tormented for a long period with the urethral affection, these individuals die of renal disease. To diagnose its source we may introduce a catheter into the bladder, and make the urine thus procured the subject of the albuminous tests: by this means we avoid the presence of pus, so far as the urethra is concerned in its supply; but where the bladder itself is diseased it is evident that such a procedure is useless, since it cannot clear up the doubt as to the exact origin of the albumen. The subjects of this complaint, when it is of long standing, become pale and thin, and their countenance assumes a depressed, haggard aspect. I suspect that it is this disease which often lays the foundation of that rare form of stricture, the universal one.

The following is a well-marked case which I recently had under my care. The man, a baker by trade, aged 35, came to me complaining of the symptoms of urethritis. I perceived that the orifice presented the flattened pouting appearance above described, which led me to examine the interior of the urethra; and by means of one of those aural specula, which open with two curved blades of small size, I was able to see a considerable portion of the canal, and it exhibited precisely the characteristic appearance of granular eye-lids. This patient had also strumous disease of both testicles; there was a large tubercular deposit in the epididymis of each gland. He stated that he had gonorrhœa six years ago, of which he was completely cured; that he has been married for the last four or five years, and has had two children. When he first married, his left testicle only was affected; but within the last two years the other has become diseased, since which time he has nearly lost the sexual passion. He stated that in the discharge of his employment he was exposed much to fatigue and sudden changes of temperature, and that whenever he walked much

or drank whiskey, the next morning he perceived a yellow discharge from the urethra, and micturition was attended with pain and scalding. The prostate gland, examined per rectum, gave no indication of disease; but the urine (in the examination of which I was assisted by my friend Mr. Fleming) afforded the following results:—specific gravity, 1020; reaction, neutral; a slight opaque cloud thrown down by heat, which is not dispersed by the addition of a drop of nitric acid; pus globules visible by the microscope, but no crystals of any kind apparent.

The treatment I have found most useful for this complaint is the occasional introduction of a bougie; and I think it of advantage, if there be not too much irritation, to smear the instrument with some astringent ointment. In the case now detailed, and in another instance, I employed the acetate of lead ointment of the Pharmacopœia for this purpose, and I considered that it produced decided benefit. Where there is a slight obstruction at or about the bulb, as there sometimes is, it is clear that the instrument must be of great use; but even where such does not exist it is also serviceable. Patients will always tell us that the passage of a bougie, when gently performed, relieves the irritation. We may also employ injections of the sulphates of zinc, alum, or copper, or of nitrate of silver; but I think I have effected more good by employing the decoction of oak-bark, either plain or combined with alum; two grains of the latter to an ounce of the former. Should there be pain or much irritation, we may add a little opium.

It has often struck me that we might apply the solid sulphate of copper to the urethra in these cases, by means of an instrument somewhat on the principle of the porte caustique, and with much advantage.

While treating the disease locally we must not neglect constitutional remedies. At first, it is well to administer some mercury in alterative doses, either Plummer's pill or the iodide of mercury in minute quantities. Should the patient, however,

exhibit very marked scrofulous features, it is as well to commence at once with the iodide of iron. Whichever we employ, we should always combine it with extract of hemlock. I have found the combination of two grains of iodide of iron, and the same quantity of extract of hemlock, given three times daily for some time, productive of the happiest effect. We may afterwards administer the nitro-muriatic acid in decoction of bark or sarsaparilla. Sea-bathing, if the patient's health admit of it, should be regularly observed, and a generous system of diet ordered; everything also which increases the irritation, such as the use of ardent spirits, sexual connexion, and over-exercise, should be sedulously avoided. Where balsams and turpentine are persevered in, with the vain belief that the case is one of common gleet, the symptoms never fail to be aggravated.

We meet in practice with cases of *irritable urethra*, presenting features of very different character, connected with very opposite states of constitution, and acknowledging very dissimilar remote causes. Systematic writers give such a definition of irritable urethra as renders that term synonymous with incipient stricture; and in fact the irritable urethra, as described by Home, and the dilatable stricture of Bell, are identical affections. I think it better to expunge the latter term altogether, to designate the disease incipient stricture with morbid sensibility, and to restrict the former appellation to those cases quite unconnected with stricture.

A person complains of some scalding in making water, and of slight purulent discharge from the urethra, both of which are greatly aggravated by drinking wine or spirits, by sexual indulgence, or by over-exercise: the stream is usually somewhat diminished, and the frequency of calls to micturition increased. If we introduce a full-sized instrument it will pass freely into the bladder; and, should we experience any resistance, it is but a very slight one at the prostatic portion of the urethra. This, however, rarely increases, and, whether it be present or not,

there is always more or less exalted sensibility of that part, being in some instances very considerable. This affection is accompanied by a peculiarly sensitive condition of the nervous system, general debility, and dyspepsia; but in most instances the principal annoying consequence of the disease is frequent nocturnal emissions, and it is in general for these that we are consulted by the patient.

Now, spermatorrhœa may arise from two causes,—either from debility of the genital apparatus, the result of excessive venery, or most probably of that disgusting vice, onanism; or it may be the consequence of some inflammation or irritation in the urethra, particularly in its prostatic portion. Lallemand, who has written at length on the subject of spermatorrhœa, considers that some degree of chronic inflammation of the prostatic portion of the canal is almost always the cause of the distressing complaint, and refers the morbid condition of the urethra to previous gonorrhœa. No doubt, this last-named disease is frequently to be blamed as the originator of all the mischief; but we often meet with cases of spermatorrhœa in which it is evident that irritation of the prostatic portion of the urethra is the cause of the involuntary emissions, the patient never having had gonorrhœa. In such cases the spermatorrhœa may first exist, and after some time irritable urethra be superadded. A person from an early age has been addicted to malpractices, which sooner or later eventuate in constant involuntary emissions; this continual excitement of the prostatic portion of the urethra will, in process of time, lead to a high degree of irritation in that part, and, if the affection be not attended to, confirmed irritable urethra will become established: thus the latter is the effect, not the cause, of the spermatorrhœa, so that in accounting for the combination it is quite unnecessary to suppose, in every case, the pre-existence of gonorrhœa.

Patients who labour under irritable urethra and spermatorrhœa combined, are, of all individuals, the most wretched, as well in mind as in body, they become inapt for active occupa-

tion, grow desponding, and, in a few unhappy instances, fatuity gradually steals on: while their bodily powers become debilitated, there is great prostration of the physical energy, often frequent fainting, and the nervous system becomes liable to many obstinate affections, the most serious of which are epileptic fits. Oxaluria is also a most common complication.

The treatment of irritable urethra is essentially tonic; the preparations of iron and bark may be prescribed, but by far the most efficacious means are country air and sea-bathing. The local irritability is best allayed by the gentle introduction of a moderate-sized plaster or gum-elastic bougie, about once or twice a week; and, though there be not the least obstruction, the increased sensibility will gradually lessen: very often this procedure causes, on the first two or three occasions, a good deal of pain and increase of the irritation, but every subsequent employment of the instrument will be found to do good.

We frequently find practitioners who persist to treat irritable urethra as if they were under the impression that the case was gonorrhœa or gleet; and so confident are they of the correctness of their diagnosis, that if, from feelings of courtesy, they cannot impugn the patient's veracity when his statement is opposed to their belief, his assertion is tacitly discredited, and balsams and turpentines, cubebs and injections, are freely prescribed. Such treatment invariably aggravates the complaint.

When spermatorrhea complicates the case, and is the symptom which most urgently demands removal, I believe the best plan is to adopt Lallemand's advice, and apply the solid nitrate of silver to the prostatic part of the urethra. The object is merely to stimulate the membrane, and if we use the porte caustique, as modified by Lallemand, a most ingenious and elegant instrument, we shall effect the purpose without any danger.

I have at present under my care a gentleman aged twenty-five years, who has suffered for a long time from irritable urethra and spermatorrhea. He has been subject for the last

six years to nocturnal emissions; four years ago he contracted gonorrhœa, and ever since he has been troubled with irritable urethra, and this has rendered the spermatorrhea still more frequent. I exhausted every remedy in the Pharmacopœia calculated in any way to influence the affection, but all to no effect; at length I tried the nitrate of silver: I have applied it four times, always with an interval of four or five days between each application, and the improvement, so far, is manifest.

I have also found much benefit from making the patient dash the testicles, perineum, and penis every morning with cold water and vinegar; it acts as a powerful local sedative. The patient should be made to refrain from stimulants of all kinds; his diet should be nutritious, but free from heating condiments; he should sleep on a hard bed, and precautions should be taken to prevent his lying on his back: lastly, the exercise he takes should be only very moderate. If the testicles be painful and hang low, as they sometimes do, wearing a suspensory bandage will give much comfort. The mind should be occupied; but studies requiring much thought and application should be suspended for the time.

For the nervous affections which often accompany the complaint, the preparations of zinc seem to be the most effectual remedy. The valerianate of zinc, in doses of one grain with three of extract of valerian, in the form of pill, given three times daily, is a most beneficial agent when there is much mobility of the nervous system; but in cases that assume a more palpable form I prefer the oxide. We should commence with one grain three times in the twenty-four hours, and if necessary increase it to three.

Some time ago a young man consulted me for epileptic fits and general debility. He was very thin; his face was contracted, and presented rather a livid hue. Upon being questioned, he admitted that he had been subject to constant involuntary emissions, to which circumstance he attributed his complaint. He was in a miserably depressed state of mind. I

endeavoured to remove the cause, the spermatorrhœa; but though this condition was improved, the fits continued. I now placed him on the oxide of zinc, in doses of one grain three times a day, and the interval between the fits soon began to increase, and his general health to improve. I then pushed the dose to three grains, and after a little time sent him to the country: he returned almost well in six weeks. Where there is much debility we may combine quina with the zinc. The shower-bath constitutes a powerful remedy in these cases. I have been told by patients that if they omitted it for one week, all their nervous symptoms would return, and the nocturnal emissions become frequent. I have tried electricity, but not with any marked benefit. When oxalate of lime is present in the urine we should administer the nitro-muriatic acid; it may be given in decoction of sarsaparilla, or in the cold infusion of bark of the former Dublin Pharmacopœia.

The pure irritable urethra is sometimes symptomatic of hepatic or gastric derangement, in which case, of course, our remedies should be directed to the removal of that cause. A gentleman who had resided a long time in France, had an attack of acute hepatitis which left some chronic inflammation behind, evidenced by tenderness on pressure beneath the ribs on the right side, and pain in the right shoulder; there was also considerable derangement of the stomach and bowels. While labouring under these symptoms, irritability of the urethra came on, and he suffered great annoyance. The practitioner he consulted, without investigating the case, set it down as one of slight gonorrhœa, and prescribed for it accordingly; but the treatment aggravated both the primary lesion and its effect. After some time attention was turned to the hepatic affection, he was placed on small doses of blue pill and rhubarb, and the site of the liver was painted regularly with the compound tincture of iodine; afterwards he was ordered to take small doses of hydriodate of potash in sarsaparilla, and the fluid extract of dandelion. He soon began to amend, and the ure-

thral annoyance to abate; and after persevering in the above measures for some time he got perfectly well. Ever since, however, when his old complaint returns, he is apt to be seized with irritability of the urethra.

Different parts of the genital apparatus, particularly the testes, become sometimes the seat of neuralgic pains, which prove most obstinate and troublesome; but the most intractable case I ever witnessed was neuralgia referred to the course of the urethra in the perineum, between the scrotum and anus. The patient was a man aged 30, apparently in robust health. He stated that he had contracted gonorrhœa a few years ago, and attributed his present affection to that disease. He had not the least pain, scalding, or difficulty in passing urine, no discharge nor other evidence of urethral irritation, and a large catheter passed with the greatest facility. There was no prostatic affection, as far as could be ascertained by examination. The pain was constant, but subject to exacerbations, at which periods it sometimes became excessive, and he was rendered incapable of attending to his business. I prescribed iron and bark in full doses, and after some time every remedy I could think of; in addition I applied frequent blisters and painted the part with the strong tincture of iodine. The only application which seemed to afford relief was a belladonna plaster; it was shaped in such a way as to lie closely to the perineum. After attending me for a considerable period, he suddenly disappeared, dissatisfied, of course, that the affection had been in no degree removed.

The foregoing observations, crude and imperfect, are offered to the profession chiefly with the object of investing with some importance affections which are generally too little thought of by practitioners, and of pointing out that their treatment, when based on correct principles, will prove successful.

Art. III.—*Does Ergot of Rye act as a Poison on the Child in Utero?* By John Denham, M. D., Ex-Assistant of the Lying-in Hospital, Lecturer on Midwifery in the Carmichael School of Medicine, &c.

The varied and increasing use of ergot of rye in obstetric practice, and the dangers likely to arise from the indiscriminate and too frequent administration of it, together with the unhappy discrepancies that are met with in the accounts published respecting the influence it exerts upon man and other animals, have induced me to turn my attention to the subject for some time past. The result of that inquiry I now beg leave to lay before the profession.

The majority of practitioners concur in assigning energetic powers to ergot, while not a few have pronounced it inert and harmless. The late Dr. Hamilton, of Edinburgh, declared that it acted "in no other way than by influencing the imagination." When we bear in mind, however, that the learned doctor admits that he had only two opportunities in practice of giving it a fair trial, we may, I think, allow him a poet's license, and assign to his imaginings on this subject their proper value.

Accidental observation and direct experiment concur in showing that it acts as a direct poison on many classes of animals, while upon others it seems to exert no deleterious influence whatever; but in no case can we look upon it as a violent or active poison, as it requires drachms, and even ounces of it, to destroy small animals, such as rabbits and pigeons.

That it is a slow but certain poison we have abundant evidence from the experiments of Wright. Thus, in one case, he gave a terrier bitch fifty-six ounces of solid ergot in the space of seven weeks, at the end of which time she was reduced from thirteen pounds weight to seven and a-half. To a bull-terrier pup, only four months old, he gave in nine weeks twenty-

three ounces and a quarter of solid ergot. In the space of twelve weeks he gave to a large doe rabbit sixty-four ounces of solid ergot; at the end of the twelfth week she died; and, what is very remarkable, during the twelve weeks she brought forth young twice; six on the first occasion, all of them lively, of good size, and apparently in good health; at her second accouchement she gave birth to three young ones, two of which were dead, and not more than half grown; the third, alive when born, was somewhat larger, but it died in a few hours. Towards the close of this last period of gestation the poison had evidently begun to tell upon the rabbit; she looked ill, appeared to be drowsy and moping, and her hair became long, erect, and rough; and, what we would scarcely be prepared to expect, she exceeded her previous period of gestation by five days. That some animals are invulnerable to its poisonous effects we may fairly infer from the cases related by Block. In 1811 thirty sheep ate together nine pounds of ergot daily, for four weeks, without any ill effects. Again, twenty sheep consumed thirteen pounds and a-half of it daily, for two months, without injury. Thirty cows took together twenty-seven pounds daily, for three months, with impunity; and two fat cows took nine pounds of it daily, with no other obvious effect than that their milk gave a bad caseous cream, which made inferior butter. From these facts we may fairly infer that ruminant animals do not suffer from ergot like other animals.

Chapman, in speaking of the action of ergot on the gravid uterus of mammals, says, "It never fails in a short time to occasion abortion." We have also the testimony of Percy and Laurent for saying that a decoction of ergot injected into the veins of a cow caused the animal to calve speedily. But on the other hand, and in opposition to these statements, is the evidence of Chatard, Warner, and Villeneuve, who all failed in producing abortion by it; and to this view the experiments and the opinion of Wright unquestionably tend: but I shall again allude to these points. When given to women for the

purpose of exciting abortion, or bringing on premature labour, ergot has sometimes failed, yet there seems to be strong evidence to show that it frequently succeeds, and most practitioners in the present day appear to be satisfied, that in a large number of cases it has the power of originating the process of parturition: upon this point, however, I can offer no very decided opinion, as I have rarely seen it given during the period of utero-gestation with this intention. That it occasionally affects the cerebro-spinal system there cannot be a doubt, as we learn from the cases published some years ago by Dr. Maunsel in the London Medical Gazette, and also from those narrated by the late Dr. Cusack, in the fifth volume of the Dublin Hospital Reports. Weight and pain in the head, giddiness, delirium, dilatation of the pupils, and stupor, are the principal symptoms mentioned by these writers, as indicating the action of ergot on the brain.

In the Dublin Lying-in Hospital the use of ergot of rye is not confined to cases of difficult or lingering labour; it is sometimes administered for the purpose of hastening delivery where the life of the patient is in danger from hemorrhage during labour; not, however, in the first stage, but when the os is dilated, and the membranes ruptured. It is sometimes given with a view of hastening the expulsion of the placenta when retained from inertia uteri, and where hemorrhage occurs as the natural result of that sluggish state of the organ. And, lastly, it is given in the chronic wards of the institution, in cases of menorrhagia, amenorrhœa, and leucorrhœa, and also in hemorrhages during the early months of pregnancy, where abortion is inevitable. But I have not been fortunate enough to witness the happy effects ascribed to its use by some practitioners who are in the habit of giving it in the first stage of labour, for the purpose, I presume, of promoting dilatation of the os uteri. Neither have I seen it given in cases of placenta prævia, accidental hæmorrhage, or partial placental presentation, previously to the rupture of the membranes; nor in

puerperal convulsions, although several successful cases of its employment are on record. On what principle it can be recommended or administered in such cases I am wholly at a loss to understand.

The subject, however, that I wish more particularly to direct attention to, is not so much the influence exerted by ergot of rye upon the mother, as how, and to what extent, it affects the child in utero. Is it physiological or simply mechanical in its operation? Does it destroy the vital principle by acting directly and immediately as a poison, or have we any data that should lead us to believe that death may be produced by the increased and continuous uterine contractions induced by the ergot, and which must necessarily interfere with and even interrupt the placental circulation, while at the same time they bring an undue amount of pressure to bear upon the body of the child, to the undoubted injury of its vital functions?

If we consult authorities upon this subject, we find the greatest possible difference of opinion to exist. Some go so far as to deny that it exerts any injurious influence whatever upon the child, either mediately or immediately. Dr. F. H. Ramsbotham, Dr. Beatty, of this city, and Drs. Hardy and M'Clintock, all maintain that the poisonous effect of the ergot is extended from the mother to the child, as it would be if opium had been administered. Dr. Hosack and Dr. Meigs, of Philadelphia, support the opinion that death is produced by the violent contraction of the uterus, and the compression and convolution of the uterine vessels consequent thereon. Dr. Chapman strongly denies that it has any bad effect on the child. He states that in two hundred cases, which occurred in the practice of Drs. Dewees, James, and himself, the ergot was used without doing harm in any respect; and he adds, "no one here believes in the alleged deleterious influence of the article upon the fœtus."

In Dr. Beatty's interesting paper upon this subject, which was published in the twenty-fifth volume of the former Se-

ries of this Journal, he says, at page 205:—"It is, I believe, generally imagined (and I entertained the opinion myself until lately) that the death of the child is owing to the kind of action excited in the uterus by the ergot. Now although this cause contributes, no doubt, in some cases, to produce unfavourable effects upon the child, I am disposed to think it is not the only cause of fatal mischief in all; but that in some there is a noxious influence exerted on the nervous system of the infant, producing results of different degrees of intensity, and that these effects vary from the death of the infant to certain spasmodic affections of the muscular system after birth." "It appears to me," he again says, at page 209, "that the cases I am about to relate will go a great way towards the solution of this question, by the evidence they afford of a direct poisonous effect produced on the infant before delivery." At page 213 he states "that the distinguishing characteristics of poisoning by ergot in infants are, the general lividity of the surface, the unusual rigidity of the muscular system, producing the stiffened limbs and clenched hands in those infants in whom life was extinguished, and the remarkable kind of alternating spasm and palsy which supervened in those that were resuscitated."

Dr. Hardy, in his paper upon ergot, published in the twenty-seventh volume of the former Series of this Journal, also says:—"In numerous instances I have observed the fœtal heart undergo all these changes where very little uterine action, and sometimes none whatever, followed the exhibition of ergot; on which account I am led to believe that the depressed state of the fœtal circulation must arise not from uterine contractions, but from some deleterious influence exerted by the ergot." Its effect on the mother's pulse, he adds, corroborates this opinion. Drs. M'Clintock and Hardy, in their truly practical and valuable observations, appear to take the same view. Speaking of ergot in tedious labours, they remark, at page 84:—"It by no means follows as a consequence that the ergot will not act on the child because it does not act on the uterus, for we have seen

numerous instances where the child was unquestionably affected by it, although the uterus was wholly unaffected, or nearly so." And again, at page 95, they remark:—"The total number of tedious and difficult labours in this Report amounts to 259, 173 of which were delivered without any instrumental assistance. Of this number thirty got ergot to overcome inertia in the second stage of labour, and only ten out of the thirty children were born alive." "This furnishes strong proof," they say, "were any such required, of the deleterious influence of ergot upon the fœtus, as in nearly every one of the above instances there was unequivocal evidence of the child's vitality when the ergot was given, and in the great majority of them delivery took place within two or three hours after the administration of the medicine."

I shall now make one or two observations, tending to show that the deadly influence of ergot, as a poison upon the child *in utero*, is not so fully established as the authors just quoted seem to think; I need scarcely add that I do so in no unfriendly feeling towards my esteemed and talented friends who have written upon the subject, but simply with the view of eliciting truth, and ascertaining how far my views upon this truly practical and important subject are correct. That ergot of rye is not an active or deadly poison to either man or beast we have ample proof in the details already given; indeed I am not aware of any case on record where it proved fatal to the human subject, even when given to a much greater extent than we are in the habit of administering it. I alluded to five cases published by Drs. Maunsell and Cusack, where it produced symptoms of narcotism; these, with one solitary case given by Dr. Hardy, in his paper upon ergot, in which delirium came on during its action, are the only cases that I am aware of where there appeared anything like serious or continued injury to the mother from the use of this medical agent; and in these the symptoms appear to me to have been the result of some peculiar idiosyncracy in the individuals, rather than the product of any

fixed or specific action induced by, and consequent upon its introduction into the system. The quantity absorbed by the mother in the short space of time between the giving of an ordinary dose of the medicine and its apparent influence upon the system (it sometimes acts in seven minutes) must be very small indeed, and not much calculated, I should say, to exert a deleterious influence, particularly when we remember that there is no vascular communication whatever between the offspring and the mother.

Does the ergot act by absorption, or through the agency of the nervous system, when given in labour cases?

In the first case given by Dr. Hardy, in his paper upon ergot, he states:—"At ten minutes to ten o'clock, two hours and a half from administering the ergot, the child, a male, was expelled; its heart immediately after birth beat 56 in the minute, in about one minute it rose to 76; in twenty minutes, when animation was restored, the number of pulsations amounted to 136." Now if this child had been really ergotized, would the poisonous effects have passed away so rapidly, or could it have been so easily resuscitated? May we not with more propriety attribute the effect produced to the interruption of the circulation and the probable congestion of the brain, produced by the severe and continued pressure of the ergotized uterus upon the child in the last efforts of expulsion. In the second case of the same report, where the patient had taken two doses of ergot, he states: "Pains not so frequent; pulse 96, full; fœtal heart, 128; sometimes down to 88, and not so distinct." Here again I would look upon the change in the pulse as being produced by the contractions of the uterus, rather than as the result of any poisonous influence. The proportion of deaths recorded by Doctors M'Clintock and Hardy (already alluded to), where ergot had been given, is unquestionably great—ten children only out of thirty being born alive. But may we not fairly surmise that death would have occurred in many of these

cases, even if ergot had not been given, although, perhaps, not at so early a period. I am the more impressed with this opinion, as I find in their truly practical and candid Report, mention of several cases of tedious labour where ergot had not been administered, and in which the children were still-born, although the fœtal heart had been heard a short time previously to delivery. Thus, in case No. 39 they state:—"A very short time before birth the fœtal heart was audible, nevertheless the child was still-born, and could not be animated." In case No. 98 they say:—"Delivery was effected by the natural efforts at 4, P. M., the child, a boy, was born dead, notwithstanding that the pulsations of its heart had been heard at two o'clock in the day." And in case No. 211 attention is directed to the important fact of the child's being dead born, though its vitality shortly before the patient got the bath had been satisfactorily ascertained.

These, and many similar cases on record, clearly prove that death sometimes takes place when ergot has not been given, even where we have little reason to apprehend such a result.

Dr. Beatty in his paper details six cases of a very unusual and highly interesting character. The children (he says) were all born apparently dead, blue in colour, stiff and insensible; three of them were with difficulty resuscitated, and two out of the three were afterwards attacked with convulsions. The sixth and last case mentioned he did not see until it was three years old, when it was labouring under a very remarkable spasmodic disease which had continued from its birth: he ascertained from the mother that her labour had been long and tedious, and that she had got ergot of rye to quicken the pains. Dr. Beatty considers that the symptoms in these cases were the result of poisoning by ergot; and he endeavours, as I have already stated, to show by them, and by a reference to the experiments of Wright, that ergot really acts as a poison on the child in utero. It is not my intention at present to discuss the merits of this highly interesting paper; I wish merely to re-

mark that the number of cases is quite too few to found any data upon in a question of so much importance, and upon which there is such a diversity of opinion. In Dr. Hardy's paper we have the results of forty-eight ergot cases, in thirty-four of which the children were dead born; in many of the cases the ergot was administered two and three hours before delivery, and in some four or five hours, yet in none of them did he witness the symptoms described by Dr. Beatty; at least he makes no mention of having done so, and we may reasonably infer that so diligent an observer would not have passed over appearances so unusual and remarkable. Again, in the thirty cases recorded by Doctors M'Clintock and Hardy, twenty of which were fatal, there is no mention made of any such symptoms as the result of the use of ergot; and I am sure that Dr. Beatty, in common with most physicians in extensive practice, must often have met with nervous and spasmodic affections in children, similar to those mentioned as affecting his sixth and last case, and where ergot had not been used; and further, I should think that he must have seen children born after the use of ergot, pale and flaccid, while in other instances they are often blue and congested, even where ergot has not been given.

I cannot omit noticing as bearing upon this subject a very able paper: "On impending Dissolution and Nervous Affections in young Infants," published in the twenty-fifth volume of the former series of this Journal, by Dr. Doherty, now Professor of Midwifery in Queen's College, Galway. He there gives a detail of upwards of twenty cases, in all of which there was present very soon after birth a tendency, more or less, to convulsions, spasmodic twitchings, or paralysis; many of the children were born cold, livid, and congested, while some were pale and flaccid: he does not mention, however, the rigid state of the muscles described by Dr. Beatty as having been present in any of them. In most of the cases the labours were short and easy, and in none of them had ergot been given.

I shall now allude briefly to the opinions of those who take

a different view of the subject, and who do not believe that ergot of rye acts as a poison, properly so called, while at the same time they fully admit that it frequently causes the death of the child. "The ergot," says Dr. Hosack, "has been called in some of the books from its effects in hastening labour, the pulvis ad partum; as it regards the child it may with almost equal truth be denominated the pulvis ad mortem, for I believe its operation, when sufficient to expel the child in cases where nature is alone unequal to the task, is to produce so violent a contraction of the womb and consequent convolution and compression of the uterine vessels as very much to impede, if not totally to interrupt the circulation between the mother and child."

Dr. Meigs of Philadelphia, in his valuable work on midwifery, in speaking of ergot, says:—"A labour is effected by the contractions of the muscular fibres of the womb, aided by that of the abdominal muscles. If all the powers employed in a labour could be accumulated in a single pain, lasting as long as all the natural pains do, no woman probably could escape with life from so great an agony, except that small number who are met with, and whose organs, happily for them, make no resistance, but open spontaneously, like a door, to let the fœtus pass out. By a beneficent law of the economy the pains of labour are short, not lasting more than thirty or forty seconds in general, and returning once in three or six minutes. Under such pains or contractions, however powerful, the fœtus is safe; for as soon as the contraction is over it lies in the womb free from pressure, and the placenta, which during the contraction had been violently compressed betwixt the womb on which it lies and the child within the cavity,—that placenta, I say, recovers its circulation, and continues during the absence of the pain to perform all the bronchial offices which belong to it. But," he continues, "if an ergotic pain is produced to last thirty minutes, in a case where the placenta is on the fundus uteri, and to be jammed for thirty minutes against the child's breech

without an instant of relaxation, who can doubt that its circulation is either wholly or nearly abolished; and that when the child emerges at last from the mother's womb it will emerge quite dead or in a profound asphyxia from the long suppression of its placental circulation? Multitudes of children are born dead from this very cause, by the imprudent exhibition of a medicine which as certainly excites a spasm of the womb as nux vomica does that of the other muscles of the body. For my own part," he adds, "I could say that I scarcely give ergot as an expulsive agent; I chiefly employ it at the moment or just before the birth of the child, in order to secure, if possible, a permanent and good contraction of the womb after labour in women who are known in their preceding labours to have been subject to alarming hemorrhage."

The last authority that I shall quote is Mr. Wright, whose very able and elaborate inquiry into the physiological action of ergot, was published in the fifty-second and fifty-third volumes of the Edinburgh Medical and Surgical Journal. It is somewhat singular that Dr. Beatty in his paper on ergot quotes Mr. Wright, and gives some of his experiments in support of his own view of the question, while to me, at least, the great majority of the experiments appear to lead to an opposite conclusion. The author's own sentiments will, I think, be found to coincide with this statement; after mentioning one or two of his experiments I will give his opinion upon the subject in his own words:—"I administered to a rabbit the day after its impregnation three drachms of ergoted rye, and repeated it daily until the period of gestation had expired, and the young ones were to all appearance unaffected by the drug." In the next experiment he gave a rabbit one ounce daily in three separate doses; at the common period she brought forth six little ones, two of which were dead, and no doubt recently; four were alive, but they were very meagre, and died on the following day. In his thirty-fourth experiment he gave a sow that was seven weeks pregnant one ounce and a-half of ergoted

rye, but no symptom of abortion followed, and at the usual time she brought forth a fine litter of young ones, all of which lived and grew well. In experiment No. 35, a spaniel bitch, a few days before pupping, took half an ounce of ergot; there were no signs of abortion, and at the end of five days she had six young ones, two of which were dead. In his forty-fourth experiment a spaniel bitch, one or two days before pupping, was given three drachms of ergot, which produced no sensible effect; in half an hour afterwards he administered half an ounce, and it proved equally inefficient; in fifteen minutes after the last dose the animal was stupified with carbonic acid gas, and the abdomen then opened and the uterus exposed. It was found to be perfectly still, except when moved by the young ones, which were yet alive in its cavity. In two other experiments he injected a solution of ergot into the jugular veins of two bitches in pup, which produced symptoms of poisoning, and the animals died in two hours; all the puppies in both cases were found dead. These highly interesting experiments require no comment from me, and I shall therefore conclude this part of the subject by giving Mr. Wright's opinion on ergot in his own words:—"I have never seen a case justifying the conclusion that mischief has followed the cautious employment of ergot; nor should I, from my own experience, consider it a medicine the exhibition of which, in a judicious manner, would be at all likely to injure either mother or offspring. Its tendency to injure the child, when given during the parturient stage only, I can scarcely believe, unless the impression be mechanical, and the fœtus be hurt from the contractions of the uterus upon it; or, from a disproportion between the external parts and the fœtus, the head suffers from being impacted in the pelvis. But if freely given for some time prior to the period of delivery, I am fully inclined to the opinion that it may, by deteriorating the health of the parent, so communicate its influence to the offspring as actually to destroy its life, or materially to reduce it in strength or soundness."

I shall now briefly mention a few cases illustrative of the opinion just quoted; they all occurred in the Dublin Lying-in Hospital, and were the cause of my first directing my attention particularly to this subject.

Case I.—Sarah Parkes, aged 39, first pregnancy; labour tedious, from inertia and over-distention. Ergot was administered in the usual way, and with the desired effect of increasing the pains. The child was born alive, one hour and forty minutes after the ergot had been given; it was now discovered that there was a second child presenting by a foot and the breech; it was born alive and well in twenty minutes, exactly two hours after the ergot had been given.

Case II.—Ellen Hughes, first pregnancy; also a twin case, and tedious from the same causes. Three doses of ergot were given in the usual way, and at the usual intervals; but although there was increased uterine action, the labour was not completed; she was therefore put under the influence of chloroform, and delivered of both children by the forceps; an interval of one hour having elapsed between the birth of the first and second child, both of which were strong and vigorous.

Case III.—Mary Reilly, aged 36, admitted into the chronic ward No. 13, being recommended by a practitioner of eminence, who looked upon her case as an interesting one of hydatids in the uterus, circumstances rendering it very improbable that she could be pregnant. On her admission, there was some trifling hemorrhage, which increased so much on the following day that she was put upon scruple doses of ergot every third hour. After the second or third dose she complained of severe pain in the abdomen, so severe that I was sent for immediately. On examining the seat of pain, I was so much struck with the stony hardness of the abdomen, during the pain, as to induce me to make a vaginal examination, when, to my surprise, I found the os somewhat dilated, and a child *in utero*, with a vertex presentation. In about eight hours from the time

of taking the first dose of the ergot she gave birth to a six months' living child, which died, however, on the following day.

Case IV.—Mary Doyne, aged 34, sixth pregnancy, sent into hospital on 28th February, 1848. It was stated by the physician who recommended her for admission that she had been thirty-six hours in labour, and had taken four doses of ergot, with half a drachm in each dose, which induced considerable increase of pain, but without any advance in the labour; as it therefore seemed likely to turn out a bad case, she was sent to hospital. On examination, we were not a little surprised to find the os uteri fully dilated, but the membranes unbroken; they were ruptured with some difficulty (being unusually strong), and in three hours from the time of admission she was delivered of a fine healthy boy, who presented not the slightest evidence of the action of any poisonous agent.

Case V.—Mary Fox, aged 34, first pregnancy. Labour commenced at 10 o'clock, p. m., March 13th, 1849. The os uteri dilated slowly till 9 o'clock, p. m., on the following day, when it was fully dilated, with the exception of the anterior lip, which had not quite gone up. The head descended very slowly, with pains which continued during the night and nearly all the next day, although a full anodyne had been given. At 7 o'clock, p. m., March 15th, it was found that the head had made but little advance; the scalp tumour was increased in size; the mother's pulse, 96; fœtal heart, 148. Half a drachm of ergot was given to her at half-past 7 o'clock; at 8 o'clock the dose was increased to forty-five grains, which was again repeated twenty minutes after 8, with the effect of increasing the frequency of the pains; so much so, that at half-past 8 the pains were without any intermission. The patient seemed to suffer much, but there was no advance in the head. At 9 o'clock she was put under chloroform, and delivered of a male child, with the forceps, but not without some difficulty.

The child was born alive, and did well, with the exception of an attack of inflammation of the eyes, which delayed its removal from the hospital for some time.

The above are a few of the cases which from time to time have occurred to disturb my belief in, and create a doubt in my mind as to the poisonous influence of ergot of rye. I am at present engaged with some experiments, which I hope to lay before the profession, with additional observations, at a future period.

Art. IV.—*On the Use of Issues and the Application of Caustics in the Treatment of various Diseases; with Cases.* By Benjamin G. Darley, M.D., Physician to Coolock Dispensary.

The efficacy of issues, in various diseases, has long been well known and acknowledged by medical practitioners, especially in affections of the brain, eyes, bones, &c.; but my attention was first more immediately directed to their use by the perusal of a very interesting paper, by Dr. Henry Kennedy, published in the First Series of this Journal. In it he speaks of the applicability of this remedy in cases of cancer and ovarian dropsy, but states that he had not seen it tried in these diseases. Having had a case of a tumour in the breast under my care, which from good reason I suspected to be scirrhous, though in an incipient stage, I recommended the insertion of an issue in the arm; and from the time of its being established, now a period of five years, the tumour has not only not increased in size, but all pain and uneasiness have ceased; and the lady has lately informed me that, whenever the discharge is small in quantity, or the issue at all suffered to dry up, she always finds the stiffness and uneasiness to return in the arm and breast. This appears to me to be a most interesting and valuable fact, and very important, as suggesting a means of treating a disease so intractable as cancer; especially when the faith of surgeons in amputation of the breast is so much shaken. The report of the case is as follows:

Miss —— consulted me on the 10th of October, 1845, on account of a tumour in her left breast. She belongs to a family many of whom have had cancer; her sister, aunt, and cousin having died of this disease. She has also an enlarged ovary for the last two years. She first felt the tumour in the breast about two years ago, but did not mind it, as it gave her no annoyance until lately. She feels at present as if her chest was tightened with a cord, especially when she stretches her arm, or engages in gardening, of which she is very fond. She is thirty-eight years of age, her general health good, catamenia rather frequent. On examination, the tumour was found to be situated on the inner side of the left breast; it was not connected with the gland, but to the inside of it; its shape was flat, and longer from above downwards; not very moveable, but did not appear to be attached to any of the subjacent parts. There are a few warty-like excrescences scattered over the skin of the breast (these latter, in my opinion, frequently accompany cancer); and she told me that her sister, on whom she had a long attendance, had the same little warty tumours. She was ordered a mercurial plaster, to be applied over the tumour, to take hydriodate of potash, to have an issue established in her left arm, and to avoid exertion.

The ovarian tumour, which is referred to above, has also been in abeyance since the issue was inserted; how far this is owing to it, I am not prepared to say; nor could I pronounce it positively to be of a scirrhous nature. It is harder to the feel, and not so fluctuating as dropsy of the ovary generally is; it very probably does contain some water, but, from the diathesis of the patient, its cancerous nature may also be suspected. I shall now contrast this case with another, of genuine ovarian dropsy.

July 19, 1842. I was asked to visit Miss O., aged 30. I had attended this lady on a previous occasion, about four years before the above date, when she had an attack of inflammation of the appendages of the uterus. This disease was induced by

great mental distress. I refer to this attack, as it is very probable that the foundation of the present ailment was laid at that time. She is at present suffering from an enlarged state of the abdomen, which has been gradually increasing for the last two or three years. She has been lately in England, where she was treated for disease of the liver and dropsy. Her general health is good, and the catamenia regular. She complains of pains in her back and loins; her legs are slightly œdematous, and there is a large tumour occupying the hypogastric and iliac regions, and reaching as far as the umbilical and lower part of the epigastric region; it is firm and elastic, and slightly fluctuating. The liver has no connexion with the tumour, for, on passing my fingers beneath the ribs, I find that the tumour is below the hand. She says that it originally began on the left side.

The treatment was at first directed to removing some dyspeptic symptoms she complained of; general directions being given as to diet, exercise, &c. She was afterwards given hydriodate of potash. Had I had this case under my care lately, I should certainly have tried the effects of an issue. Some time after the above date, the tumour, becoming enlarged, caused much inconvenience, by pressing on the bladder. She was then placed under the care of another medical man, who tapped her; peritonitis supervened, and she died in three days afterwards.

This case, together with others that have terminated unfavourably, shows that the operation of tapping, in ovarian dropsy, is attended with much danger. There is another mode of performing the operation, which, I think, would be attended with less danger, viz., puncturing the cyst, so as to allow of the escape of the fluid into the general cavity of the abdomen, from which I should expect it to be taken up by the absorbents. The operation might be performed with a cataract-needle. We have an operation similar to this proposed in cases of hydrocele, and which I have performed myself with perfect success: inserting a cataract-needle into the hydrocele sac, and allowing

the fluid to escape into the areolar membrane, from which it is quickly absorbed. In the above case the cause of the peritonitis was the admission of air into the cavity of the abdomen, a result which would not be so likely to follow the mere admission of the fluid of ovarian dropsy into the same cavity. This mode of operating gets some encouragement from a case which occurred some time since in Dublin, where the cyst of an ovarian dropsy was burst by an accident, and the fluid was absorbed without any unpleasant consequence.

The efficacy of issues in apoplexy has long obtained. In a case lately under my care, I had an issue inserted in the arm after the first attack. Not long after convalescence I was again sent for, the gentleman having had a second attack. I certainly felt much satisfaction on inquiring, to hear that he had let the issue dry up, having, as he said, found it rather troublesome to dress, and that it was to his having done so the return of the disease was ascribed.

A gardener in my neighbourhood was labouring under epistaxis of a most severe form, on one occasion bringing his life into imminent danger. In this case I had an issue established in the arm, and from that time to the present, now upwards of six years, he has had no return of bleeding from the nose.

I have a lady at present under my care affected with chronic catarrh, with profuse expectoration; an issue has lately been put in her arm, and already the cough and expectoration have begun to decrease.

I should state that the method I generally employ of establishing issues in such cases as the above, is as follows:—I first apply a common blister of the desired size and when the vesicle forms, I remove the cuticle; this is then dressed every morning with a piece of Albespeyres' plasters, No. 2 or 3, and covered with lint and adhesive plaster, which keeps up a sufficient discharge. This may be called a perpetual blister, which to many ears is not so offensive as the term "issue."

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In the diseases now mentioned, the issues are what may be called *permanent.* There is another class of affections where they may be used with advantage as a *temporary* means of relief; I refer to chronic tumours and chronic abscesses, which occur in different parts of the body:—for instance, in that form of constitutional or sympathetic enlargement of the glands of the groin, so frequently met with in young men, which is not the consequence of the venereal virus, but rather the effect of a weakened and cachectic state of the constitution. This tumour is very indolent in its nature, a long time elapsing before suppuration is established, and resolution is not a common termination. Now, the best method of treating such a tumour is, in the very early stage to make a tolerably sized eschar with the caustic potash, and to keep a small poultice over it; and the tumour, which prevents the patient making use of any exertion, will be found to have disappeared when the eschar separates.

Allied to this is another tumour often met with, and which appears in the axillæ of young persons. A young man applies for advice, and from his pale, washy appearance, and the manner he carries the affected arm, his disease may at once be known; he has the arm either in a sling or supported by his other hand, and the shoulder depressed and pushed forward; and there is much anxiety and suffering depicted in his countenance. If this be treated in the common way we shall have to wait a long time before it suppurates; and if it be then opened a small quantity only of thick pus escapes; the opening will soon close and the abscess point in another direction, leaving sinuses which are very tedious in healing. I have been for some time in the habit of treating such tumours in the same manner, viz, making a small eschar with the caustic potash in the very beginning, when they present a hard, indolent tumour. These latter must not be mistaken for the acute abscess, which is frequently met with in this situation, and which is easily treated by incision.

There is another class of affections for the cure of which various caustics are used, to which I wish next to call attention. I refer to those cases of nævi and small varices, which in infants are generally congenital, and which we also meet in children from the ages of 6 to 14 or 15. We are often called upon to give our opinion as to these little tumours. In females, when they appear on the face, their most general seat, they are a source of great anxiety to parents, not merely from their appearance, which is often very remarkable, but from the dread of their enlarging and being followed by unpleasant consequences. As to the latter, I have observed that, when they appear in growing up children, they do not increase to any great size, nor will they burst and bleed, as some species of aneurismal varices do; however, they are unsightly in their appearance, and consequently the judicious surgeon must be prepared to remove them when called upon. Now, I intend to state merely what I have myself seen in regard to these tumours, and to propose a very simple and safe method of removing those met with in growing up children.

And first, with regard to infants: the head is very frequently their seat; so are the back and the abdomen; they are often flat, and embrace a considerable portion of skin, which is of a purplish colour, with innumerable vessels, filled with blood, running through it. The blood can be squeezed out by pressure, but returns again when the pressure is taken off. I have seen one such as this occupying a considerable space round the umbilicus. Another kind is round and elevated, varying from the size of a small nut to that of a large cherry or walnut; this, from the congeries of contained vessels, gives to the touch the well-known wormy feel. One of the best methods of removing these is by passing threads steeped in a solution of sulphate of copper or of some other caustic astringent through the tumour. I remember one remarkable case of this species being brought to me; the tumour was the size of a moderate Spanish nut, and situated on the head of a child of a few months old.

I told the mother that she ought to have it removed by a slight operation, and that if neglected, it would surely end unfavourably; she told me afterwards that her husband would not allow of any operation. Some months afterwards I met this woman; having previously heard that "the child was cured," I asked to see its head. The tumour was perfectly gone, and the part, though slightly marked, was as flat and smooth as the rest of the skin. After some difficulty I got her to acknowledge that "a charm" had been performed; the charm was this: the child was brought to a house where a man had recently died, and the dead man's hand was rubbed a certain number of times upon the tumour, and after this the tumour gradually disappeared. I did not attempt, as it would have been a difficult undertaking, to persuade the mother that this was not the cause of cure. I mention it, however, partly to show the tendency these tumours have to contract and disappear.

The forms of these tumours which we frequently meet with are situated on the face of young persons; they vary from the size of a pin's point to that of a grain of barley. They are of two kinds, one a small, round, red, isolated tumour, which, when examined through a lens, shows a congeries of vessels running in a tortuous manner, and enveloped in a little cyst; the other, a small tumour, with a number of little vessels running in a stellated manner to it, as to a common centre. The blood can easily be emptied by pressure out of these little vessels.

Mrs. G—— consulted me about her little girl, a child of seven years old, who had one of these small varicose tumours under the left eye; the tumour itself is not larger than the head of a pin, but there is a lash of small vessels running in a stellated form to it, so as to give it a very remarkable appearance. The mother is very desirous to have it removed, as she thinks it is increasing in size. The operation was performed thus. I first, with a lancet, made a free opening through the centre of the tumour; all the blood in the small

vessels, as well as that in the tumour, immediately flowed out. I then, with a pencil of nitrate of silver, cauterized the exposed surface of the tumour strongly, holding the caustic in contact with the tumour for some time. A superficial black eschar was formed, which separated in the course of a week, when the tumour, and all appearance of the small blood-vessels, were gone; and in a very short time there was not only not the slightest depression left, but not even a mark to be seen. This mode of performing the operation is both safe and expeditious; it does not leave the deep pit I have seen after the operation with caustic potash, as used by some surgeons; and the application of the lunar caustic by itself, without the incision, frequently fails; or, if it succeeds, it is after a great many applications. It has been proposed to insert an acid into these little tumours, by means of capillary tubes, with the view of effecting a cure. I have not seen this latter operation tried; but I shall be satisfied if this *proposed method* of mine will do away with that barbarous plan of taking a piece of flesh out of such an exposed situation as the face, which the operation with the caustic potash inevitably does, and which produces an unpleasant reminiscence of the surgeon and his operation every time that the pit which it has left is observed.

Art. V.—*Contributions to the Treatment of Uterine Diseases*[a]. By W. F. Montgomery, A. M., M. D., M. R. I. A., Professor of Midwifery, &c., to the King and Queen's College of Physicians in Ireland.

I.—INTRA-UTERINE POLYPUS, OF A LARGE SIZE, SUCCESSFULLY OPERATED ON.

On the 27th March, of 1850, I was urgently requested to visit a lady at Black-rock, who was said to be suffering such intense pain that her friends thought she could not survive if relief

[a] These cases were read before the Pathological Society of Dublin.

were not speedily obtained. On my arrival there, I found her to be about forty years of age, unmarried, and in violent agony, almost frantic with her sufferings, which recurred periodically, and resembled labour pain; she was quite blanched, and partially œdematous; and had been ill, her friends said, from time to time, for between four and five years, during which she had occasional pain, and leucorrhœal and sanguineous discharges from the uterus to a large amount.

On examination, which she consented to with great reluctance, I found the pains were produced by regular and strong contractile efforts of the uterus, the mouth of which was open to the size of a shilling, with very firm margins, and becoming very tense during each pain. Immediately within it I could distinctly feel a round tumour, which was pressed strongly into the circle of the os by every pain; in fact there was within the cavity of the uterus a polypus of considerable size, which the organ was endeavouring to expel, by efforts like those of ordinary labour. There was a tumour in the abdomen inclining towards the right side, and reaching nearly as high as the umbilicus.

She was suffering so severely, and was so exhausted by the pain, that I thought it necessary to give her a cordial and an opiate, from which she derived immediate relief; the uterine efforts ceased, the polypus receded, and the os uteri gradually closed after a few days.

She was then given tonics, under which her health improved surprisingly, and no further change of importance occurred until

May 27th, when, after taking a walk, severe pain again came on, with hemorrhage, and lasted three days; in consequence of which I saw her again on

May 30th, when I found the os uteri, which had been very rigid and unyielding two months before, much more open, thinner, and so relaxed as to allow me to pass my finger freely

into the uterus and round the tumour, which appeared to me to have a broad and very firm attachment.

June 15th, she is looking wonderfully better, but had a sharp attack of pain and hemorrhage on the 10th, which lasted several hours.

Under such circumstances, with frequently repeated and severe paroxysms of pain, and with large discharges of an exhausting character, I reflected often and anxiously on what I ought to do. I felt it was highly desirable that the tumour should be, *if practicable*, removed with the least possible delay; lest the patient should sink under the exhaustion produced by severe pain and hemorrhage. But how was its removal to be accomplished? There were, 1st, a very contracted vagina; 2nd, an os uteri only partially open; 3rd, a large tumour within it, with (4th), as far as I could judge, a very broad and firm attachment.

Then, by what means might the descent of the tumour be promoted or effected?

1. Ergot of rye might be given to aid the expulsive efforts of the uterus.

2. The polypus might be drawn down by force with hook forceps.

3. An attempt might be made to crush the substance of the tumour by a strong forceps.

4. There was the alternative of leaving it to time.

I greatly doubted that the action of ergot, or the attempt to pull the polypus down, would succeed; and if either did, I thought it almost certain that, from the extent and firmness of the attachment, its descent, *so produced*, would almost inevitably have brought down with it the fundus uteri; and thus inversion of the organ be superadded to the already existing formidable disease.

The attempt to crush and break up the substance of the tumour I regarded as equally objectionable: for, first, it would

have been very difficult to make, on account of the narrow vagina and only partially opened os; secondly, the firmness of the tumour was such as would render the attempt to break it down very likely to fail; and, thirdly, in doing so I thought it highly probable that large vessels would be opened, and a dangerous hemorrhage produced.

I therefore rejected all these plans (which, under suitable circumstances, have been adopted with success), and considering that, as yet, the patient's health was not deteriorating, but improving, and her patience and fortitude unimpaired, I decided on adopting the policy of Fabius, "vincere cunctando," and I had afterwards great reason to rejoice that I came to this decision.

In July she left town for three weeks; on the 15th of that month, she had a very severe attack of pain of an expulsive kind, with great flooding; and when I examined her on the 24th, the large end of the polypus had fairly cleared the os uteri, and I advised her coming to town to have the operation for its removal performed.

I next saw her on August 2nd, and on the 9th I passed a ligature round the neck of the polypus, fully three inches within the os uteri, by means of Niessen's double canula, and more than six inches of ligature were taken up in encircling the attachment of the tumour. On the

11th symptoms of putrefaction were perceptible, and continued to increase. On the

14th the ligature appeared to be drawn home, and on twisting the canula it broke, but the polypus would not come away, though the amount of attachment remaining undivided could not have been more than a quarter of an inch in thickness.

The discharge now became horribly offensive, the pulse very quick, and the stomach irritable, so that I began to be very anxious about the result, and to fear that it would be unfortunate; yet the patient never lost courage, but maintained

the most complete composure and unshaken fortitude throughout; took food freely, and slept well, never for one moment doubting, as she afterwards assured me, that she would ultimately recover, as I had promised her. And thus passed over the 15th, 16th, and 17th; each day I tried to draw the polypus down, but it seemed to be firmly grasped by the uterus, and was quite immoveable, so that no force of traction that I could safely exert was sufficient to bring it away until the 18th, that is, the ninth day from the application of the ligature, when, greatly to my satisfaction[a], I succeeded in extracting it; from which moment the lady never had an unpleasant symptom.

The tumour, when it came away, was greatly decomposed, softened, and consequently reduced in size, portions of it having also been torn and cut away in the attempts to get it down; but still it was of considerable bulk, measuring about five inches in length and three in breadth.

As soon as the polypus was removed I found that the tumour in the abdomen became suddenly greatly reduced in size, and in a few days was no longer to be felt.

The lady's recovery was rapid and uninterrupted; she was in the drawing-room in four days, and left town on the 28th, ten days after the extraction of the polypus: and since her return to the country, I have been informed by her brother that she is in the enjoyment of perfect health.

II.—HYPERTROPHY OF THE ANTERIOR LIP OF THE OS UTERI, REMOVED BY OPERATION.

I was requested to see the patient, whose case is here referred to, with the late Dr. Creighton, in the winter of 1848. She was about thirty-five years of age, had borne children, and her general health was stated to have been perfectly good;

[a] I beg to refer the reader to some observations of mine on the danger of allowing a large polypus to remain in the vagina, in order that it may soften and diminish, and so be more easily removed, in a paper on uterine polypi, &c., in this Journal, vol. ii. N. S. p. 54, August, 1846.

but she had latterly been constantly complaining of symptoms of uterine disturbance, which caused her great distress and uneasiness: she had pain in the back, with bearing down, and muco-purulent discharge. In short, her symptoms seemed to point to the existence of ulceration of the cervix uteri, to determine which, Dr. Creighton had made the requisite examination; and found that it was as he suspected; but that there was, in addition, considerable enlargement and projection of the anterior lip of the os uteri, which he at first expected would have disappeared under the application of caustic and other measures necessary for the treatment of the ulceration.

This, however, did not take place; and although the ulceration was improved, the distress experienced by the patient continued to increase, and he was anxious to have further advice, in consequence of which he requested me to visit her with him.

She was now complaining of constant uneasiness of a peculiarly irritating and distressing kind; a sense of weight and pressure, as if the womb was continually descending; and she said she felt as if there was some pointed and hard foreign body in the vagina forcing its way backwards: intercourse so aggravated her annoyance that it could not be tolerated.

On making a vaginal examination I found the uterus lying very low, with its anterior lip projecting at least three-fourths of an inch beyond the posterior lip, which was quite concealed behind it; the under and posterior surface of the enlarged lip was ulcerated, and its texture a little hardened, but not more than is usual in cases of long-standing ulceration and inflammation of this part; otherwise, the hypertrophied lip appeared quite free from any malignant affection, and to consist merely of the common uterine tissue unnaturally developed. But I gave Dr. Creighton my opinion, that excision must be resorted to before a cure could be effected, as I thought it altogether improbable that local applications of caustics or discutients would be adequate to the removal of such an amount of altered

structure. He agreed with me; but as the patient was greatly alarmed at the idea of any cutting operation, and begged a further trial of other remedies, it was decided to wait, and try what might be accomplished by such means; and she was put on a course of hydriodate of potash, with Brandish's alkaline solution, and the enlarged part was touched with strong tincture of iodine, and several other applications of a similar character; but these measures did no good, and the patient was at length so annoyed with the incessant irritation, and so interrupted and prevented in following her necessary occupations, that, after three months, I was requested to see her again.

The ulceration was now very nearly healed, still the hypertrophied lip was no better, but rather worse; and on explaining to her the necessity for, and the painless nature of the operation, she readily agreed to its being performed.

Accordingly, on the 7th of March, 1849, I undertook it, assisted by Dr. Creighton and Dr. Hardy.

The patient was placed on her back, near the edge of the bed, with the limbs drawn up, and two broad curved spatulæ being introduced by these gentlemen into the vagina, its parietes were held asunder, and the diseased part easily brought fully into view, when I caught it with a small pair of hooked forceps, drew it down, and with two strokes of a curved scissors it was removed.

She felt no pain during the operation; an artery seemed disposed to bleed very freely, but I applied to it a small roll of lint soaked with the *liqueur hæmostatique*, and filled the vagina well with dry lint. There was no further appearance of hemorrhage, nor any unpleasant or unfavourable symptom of any kind: indeed nothing could be more satisfactory than her convalescence; and after a very short time she had completely lost every feeling of uneasiness, and the uterus had re-ascended to its proper place.

The amputated lip presented no morbid character, but simply the structure of ordinary uterine tissue somewhat hardened:

but I should observe that its size and condition, as seen now preserved in spirit, are very different from what they were when it was attached to, and forming a part of the living organ, in which state it was much larger, with its vessels gorged with blood, and its structure partaking of the erectile character naturally belonging to the lower part of the cervix uteri.

On the 3rd of April, that is, four weeks after the operation, I examined her, and, by the touch, could discover no difference between the anterior and posterior lip; on applying the speculum I was very much surprised to find that the extremity of the anterior lip presented no appearance whatever of having been cut; but the cut surface was quite distinctly visible about a quarter of an inch higher up on the anterior aspect of the cervix.

This, however, I can easily explain, although I confess I did not at the moment expect to find it so.

While the process of hypertrophy was going on in the anterior lip, accompanied as it was by much increased action and irritation, the whole lower end of the cervix, including, of course, the posterior lip, had lengthened out, and the two lips of the os had at the same time closed in upon each other, the anterior, however, most so, and partially overlapping the other. When the latter was removed, and the unhealthy action put an end to, the whole tissue became diminished in volume, and the natural mucous surface of the anterior lip was by degrees drawn out and everted. Of course the cut surface receded and ascended in a like degree.

Any one who has been much engaged in treating ulceration of the lips of the os uteri, cannot have failed frequently to notice this process taking place from week to week as the ulceration heals, and the enlarged and indurated uterine tissue gradually assumes its natural condition.

I have only to add, that the posterior lip, which at the time of the operation, was somewhat enlarged and elongated, was found to have also resumed its natural size and form; and

many months afterwards, I was informed by the patient, that she was quite free from every trace of her former annoyances, and felt perfectly well.

Art. VI.—*Remarks on the Treatment of Acute Hydrocephalus.* By Henry Kennedy, A. B., M. B., M. R. I. A., Fellow and Censor of the College of Physicians in Ireland.

Much as has been written on hydrocephalus, much still remains to be cleared up on the subject. With what a number of difficulties is it not yet surrounded? Who has not seen instances where the difficulty of arriving at a correct diagnosis has been great, or not heard of other cases where the medical attendant has been surprised by the sudden invasion of acute head symptoms, over which his art had little or no control? Or, again, who knows not how frequently other, and apparently very dissimilar, and it may be trivial affections, terminate in this intractable and most fatal one? Some such thoughts as these have induced me to bring under notice this subject once again. It should be premised, however, that I am not now about to enter into the subject at large, but merely, after detailing a few cases, to make some remarks, which the cases themselves, as well as the additional experience of the last six years, have forced on my attention. For the cases themselves I am chiefly indebted to my attendance at the Cork-street Hospital, and to the kindness of my friend, Dr. George Kennedy. The number of cases of the disease that are to be seen there, one year with another, has often surprised me; and there, as elsewhere, it occurs, that when one case is admitted, others are sure to follow. With these few remarks, then, I shall at once proceed to narrate the cases alluded to.

Case I.—In May, 1845, I assisted my friend, Dr. Fawcett, of Clontarf, to make a post mortem examination of a boy aged four years. He was a perfect model in shape, and seemed to have been in very good condition. Though I am unable to

state the exact time, it appeared that, some few days previously to his last and fatal illness, he had a severe fall on his way home from school. This was followed by a state of dulness and listlessness, which lasted for two or three days, when he began to complain of his head; this was shortly followed by vomiting of an unusually severe character, attended with symptoms of very high inflammatory fever. He was then seized with convulsions affecting one side more than the other. The treatment was most prompt and decided, consisting of general and local bleeding, with calomel and blisters, and for a time with apparent amendment; but the violent symptoms recurred, and the boy sank on the fourth day of the acute attack. The head only was examined, and there we found, particularly on the anterior lobes, a considerable quantity of healthy pus effused, smeared, as it were, over the brain's surface, but still on the arachnoid. On making a section of the organ a large number of bloody dots appeared. There was some effusion into the lateral ventricles. The base of the brain was healthy.

Case II.—A girl, aged six years, was admitted into Cork-street Hospital in October, 1849; she was a thin, delicate-looking girl, and one of three other cases admitted about the same time, all labouring under hydrocephalus. It is unnecessary to enter into any details, further than to say that, in the progress of her illness, she presented the following symptoms:—slight, but well-marked signs of fever; great and constant complaint of her head,—the cry so peculiar to the disease going on night and day for many days, and disturbing the patients in the ward; and then, as the disease advanced, convulsions of one side of the body, while the opposite side was rigid; dilatation of the pupils, one more than the other, with injection of one of the eyes; loss of flesh, and tendency to bed-sores. After these symptoms were present, more or less, for twelve days, the girl began to show signs of amendment. The eyes gradually got more appearance of life about them; the tongue would occasionally be put out; the fits of screaming ceased, at first in the day

time, and finally at night; and the rigidity of the body, together with the drawing back of the head,—which, I should have stated before, existed all through in a very marked degree,—finally disappeared; and the little patient, given up as lost some days before, made a good though a slow recovery.

Case III.—In the month of October, 1850, Wynne, a very delicate boy, sixteen years of age, was admitted into Cork-street Hospital, labouring under fever. He was reported to be a fortnight ill. He had a hot skin and heavy eyes, with a contracted state of the brows; his tongue was furred, with a brown stripe down the centre, while his pulse beat but 60 in the minute, and was equal. He had some tendency to bowel complaint, and the nurse stated that he had vomited several times since his admission. On questioning him his only complaint was of his head, and he referred the pain to his forehead, just over the eyes. He remained very much as described for many days, during which all his complaint was of his head, while his pulse never exceeded 60, and on two occasions was as low as 54. During this period too he vomited several times, and frequently without any assignable cause. Finally the pulse rose to about 70, and with this change the other symptoms subsided, but so slowly that a month elapsed before the boy left his bed, and when up his appearance was far from that of health; nor could he be said to have fully recovered even on leaving the hospital some time later.

Case IV.—At the very time that Wynne was in hospital, another boy, aged 16, was admitted, labouring under symptoms precisely similar. He was of small stature, but his head was large. When four years old he had awakened out of sleep affected with paralysis of the left leg and arm; and from that to the period of his admission into hospital he had never recovered the use of either. They were now both atrophied and contracted. On his admission his countenance was heavy, and expressive of suffering; he had fever, but not to any extensive degree; a very furred tongue being the most striking

feature of it. He had repeated vomiting both before and after his admission; the pulse at this time being, as in the last case, only 66, at which it remained for five days, and then rose. This boy's only complaint was of his head, and for some days the pain was of a very intense kind. By treatment, of which more will be said again, the symptoms gradually, though very slowly, subsided, and he was finally dismissed well.

In addition to those given, I have seen one other case, occurring in a girl of 17, where symptoms of fever ushered in head symptoms of a very marked character, and in which all the usual signs of hydrocephalus, including vomiting, dilated pupils, strabismus, slow pulse, and fever, were present. I have no particular notes of the case, but the patient recovered, though her recovery was unusually protracted.

The foregoing cases have been given with a particular object in view. The last four include all those of recovery which I have seen, in a period now of several years; and truly, on looking back, the remembrance is anything but pleasing; for there is exhibited a rate of mortality which, amongst what are called acute diseases, is only surpassed by hydrophobia itself. With such a fact in view, it is not, surely, too soon for us to call in question, or at least reconsider a disease and its treatment, where the mortality stands so excessively high. It is with this intention that these remarks are now put forward, and here, as in every other instance, I would wish them to be considered as suggestions merely.

I would begin this part of the subject by observing that the words "acute hydrocephalus" appear to me to have been unhappily chosen; for they at once convey the idea, as regards treatment, of bleedings, whether general or local, together with other parts of the antiphlogistic plan; and that they lead to this line of treatment, there can be no doubt of. All the standard works on the subject bear me out in this statement. Now is the form of hydrocephalus which we most commonly meet, an acute disease? I must reply to this question in the

negative. It is quite true that we shall meet the disease presenting very acute symptoms, and running a very rapid course. But I must assert that such are the exceptions to the general rule; and that in by far the majority of instances the disease is more of a subacute than of an acute character. The child's health is observed to be failing before the attack; he looks ill, and has possibly been losing flesh; and when the head symptoms do show themselves, though there commonly is considerable reaction, still, all who have observed the disease must recollect that this will have, in great part, subsided, for days before the fatal termination; nor indeed is it at all uncommon to see patients die with cold and livid extremities, failing pulse, &c. But again, does this form of the disease—which, it must be repeated, is the most common form,—terminate in the same time as an attack of acute disease, such as pneumonia? Every one must answer in the negative. In my own experience the average duration of the disease has been three weeks; sometime a day or two under this, but as frequently a day or two over. There still remains one other reason, and to my mind it appears a very strong one, why we ought not to consider the more common form of hydrocephalus an acute disease. It has happened to me on several occasions to meet, amongst the poor, cases in which literally nothing had been done for days after the commencement of the complaint. Under such circumstances it might be expected that the disease would have run a more rapid course, but such was not the result; for though the children did ultimately die, they certainly held out as long as cases in which treatment had been enforced from the commencement of the attack.

But further. If we come to the nature of this intractable disease, the views put forward are still more fully borne out. For what is its essence; why is it that it should not yield, like other acute diseases, if it be of the same nature? Simply because it is not an acute disease, as the terms are usually understood. It is not like pneumonia or peritonitis; on the con-

trary, I agree with those who look upon it as a constitutional affection, and allied, in the great majority of instances, to the strumous diathesis. It has been my lot to have examined after death a very considerable number of cases of hydrocephalus, and in every instance where the examination extended to all the cavities I have invariably found tubercles in one or other organ of the body, sometimes in several organs at the same time. The liver, spleen, kidneys, mesenteric glands, lungs, and even the heart itself have been so contaminated; and in some instances I have found tubercles in the substance of the brain. Nor are these facts at all novel. Some forty years ago, Cheyne stated that it was common to find tubercles in the liver in these cases, and the fact has been confirmed by many other observers since. But I think it may be questioned whether the deductions which fairly arise from them are kept as prominently in view as they deserve.

If the foregoing remarks, then, be correct, it will be now understood why I am inclined to suggest that the term "acute hydrocephalus" should be changed; or at least, if retained, that it should be understood as not indicating acute disease, as it is commonly spoken of, but rather a subacute affection. Probably some may think that the mere change of terms would be a matter of little moment; I confess, however, I do not think so, but that it would be of importance if some term were used which would indicate that we have not acute disease to deal with. Passing by, however, the mere change of name, other and more serious questions follow from the views which have been advanced; I mean as to treatment, and this is really the important part of the subject; and as regards it, I venture to propose the following question: Is the treatment of the more ordinary form of hydrocephalus too heroic? I believe it to be so, and that a better prospect of cure will be held out by a treatment a good deal modified from that in common use. The limits, however, of this paper prevent me from entering into the subject at any length, and I shall, therefore, confine

myself to a few remarks on two of the remedies in most general use, I mean bleeding and mercury. Of the former,—and I am now only speaking of local bleeding,—I have fully satisfied myself that, speaking, of course, of the great majority of instances, very little of it will answer every purpose. This point I have been confirmed in by what has been already stated, viz., that cases left to themselves for days did not appear to run a shorter course than those where treatment had been adopted from the outset. What I would suggest, then, would be the use of as much local bleeding, and no more, as would suffice to relieve pain; for as to cutting short the progress of the disease, I look upon it as vain. Let me not be misunderstood, however. There are cases of the disease of a really acute kind, and these must be met, not only by free local, but even by general bleeding. It was to illustrate this that the first case I have detailed was given; and this too is an additional reason for drawing a distinction between what is *really* acute, and what has hitherto *been called* acute disease. But then it must be borne in mind that the former is the exception to the general rule, and that for one such, there are at least ten of the latter, possibly more. Of the acute form of the disease I have seen different instances where the result was favourable; one, some short time back, I saw casually with my friends, Drs. Irvine and Denham.

To mercury similar remarks, I think, apply. It would seem, as far as I have seen, to be used as a *sine qua non;* and yet the results do not appear to justify such a faith in it. If the attack be of the really acute disease already spoken of, probably no better medicine than calomel can be employed. But in the more frequent form of the affection I have had the conclusion forced on my mind that other means held out a better prospect of success; and the same conclusion had been arrived at before myself, by the physician to whom I have alluded in an earlier part of these remarks, Dr. George Kennedy.

I may mention, as bearing out these views, that I have notes

of more than twenty cases of hydrocephalus, in which the specific effects of mercury were produced, and yet in not one of these cases was the result favourable, to say nothing of others where salivation could not be induced. And indeed if we consider for a moment the specific nature of the disease, it will not appear strange that such an amount of fatality should attend it. It is, I believe, an established rule that mercury does not act favourably in strumous constitutions. Hence we can offer some explanation, at least, why such unfavourable results should occur in the cases alluded to. Is it, I would ask, in weak, strumous children, with a strong predisposition to form tubercles, is it right to give mercury, and do our utmost to induce its specific effects? The answer to this must be in the negative. But then it will be asked, what other resource is there—what means would you use? And this leads me, in conclusion, to make a few remarks on the treatment which I believe holds out the best prospect of success.

At the commencement of this paper four cases were given, in which recovery took place after the disease had passed into the second stage, that is, when the pulse had fallen. Now it is specially worthy of notice that three out of the four were not salivated; and in the fourth salivation was produced more by accident than design; in fact he had got a small quantity of hydrargyrum cum cretâ, when his mouth became suddenly and severely sore. They were all leeched, and the grey powder, in very minute doses, as an alterative, was administered with antimonial powder. Blistering was very freely used, at first in the ordinary mode, and subsequently, in two of the cases, under the form of the tartar emetic plaster applied to the head; and in this way a constant discharge was kept up. But, in addition to these measures, particular attention was paid to keep up the strength: some got beef tea and others wine, and this while the disease was still present. The child of six years old got two ounces of wine, which was increased to three in the day; and this was given while the pupils were still dilated, while the

screaming was constant and the convulsions existed; and it was apparently under its use that this child rallied. Other measures, which are, however, in every-day use, were also enforced, but need not be spoken of here. The recovery of all was unusually protracted and slow, as indeed we might expect in such cases.

From this brief sketch it will readily be inferred what the line of treatment is which I would venture to suggest in this intractable disease, and I can only venture to suggest it, inasmuch as the experience I have had has been too limited to enable me to speak with confidence of it. But what then? Is it not better to act on a hint of this sort, few though the recoveries have been, than continue in the beaten path, which we know, as a matter of fact, leads to such a fearful mortality. I cannot think there is anything irrational in the general views of the disease which have been now stated, while the mortality alluded to will justify any modification of treatment which will hold out a reasonable prospect of success. To sum up, then, I would say that the ordinary form of hydrocephalus is a subacute disease, that bleeding and mercury ought to be very moderately used in this form of it, while wine or other stimulants ought to be given as early as prudence would justify[a].

Art. VII.—*Observations on Arsenical Poisoning.* By T. G. Geoghegan, M. D., Fellow and Professor of Forensic Medicine, Royal College of Surgeons, Ireland; Surgeon to the City of Dublin Hospital; Hon. Member of the Natural History Society, Montreal, &c.

The increasing interest which attaches to the practical study of legal medicine, and the responsibility which, in charges of poisoning, devolves upon the medical witness, induce me to lay

[a] It was my intention to have made some remarks on the treatment of other affections which occur in the strumous constitution, and as bearing out the views advanced; but my limits prevent this at present.

before the profession a portion of the results of my inquiries and experience in reference to arsenic, a substance confessedly the most usually resorted to for criminal purposes in the British Islands. The position of the medical witness in charges of poisoning is somewhat peculiar, as upon him exclusively devolves the burden of the proof as to the mode of death; although, unfortunately, in many cases the information which he is enabled to communicate is nullified (as far as concerns the conviction of the guilty), by the difficulties which surround the proof of administration.

Although criminal poisoning is essentially a secret crime, some of the following cases will, I trust, serve to show, that even the proof of administration with intent, is sometimes within the power, and undoubtedly within the province of the medical witness.

The general observations which I shall have occasion to make, and which refer to the vital manifestations, morbid changes, physiological distribution, antiseptic powers, and detection of the poison, I shall reserve till the cases on which they are based shall have been stated. The latter I shall give in detail; for although in so doing I may incur the risk of being tedious to the general reader, I shall be thereby enabled to afford the medical witness the opportunity of comparing individual conditions with those which he may have himself encountered in any case under his investigation, and also to furnish (as far as may be) to the toxicologist in search of generalizations, an increased basis for the construction of the latter.

I trust, therefore, to receive the indulgence of the medical and medico-legal reader, and I have only to regret that, from the influence of circumstances for the most part beyond my own control, the series of conditions described in the following histories are not uniform throughout.

Case I.—P. Bannon, a farmer, and Jane Shalvey, were indicted at the Commission Court, Dublin, in April, 1845, for the murder of the husband of the latter. It appeared that the pri-

soners had maintained for some time an adulterous intercourse, in consequence of which the deceased and his wife lived upon bad terms. The male prisoner was proved to have purchased arsenic at Drogheda, for the alleged purpose of destroying rats on his brother's premises; but he had not been authorized by him to do so, nor had his brother been informed of his intention. The female accused was most inattentive and unfeeling to her husband during his illness, and married Bannon in three weeks after his death.

It appeared that the deceased, who was from twenty-five to thirty years of age, and previously healthy, was seized with illness on the morning of the 17th May, 1844, in about an hour after having breakfasted on oatmeal porridge made for him by his wife. He did not experience anything peculiar in the taste of the food. His symptoms were nausea, feeling of distention of the stomach, accompanied by great pain, "as if there were a *fire* within him," burning in the mouth, and, subsequently, vomiting of a greenish fluid; to these were speedily added burning in the throat and along the œsophagus, urgent tenesmus, with slight discharge of mucus, and excoriation of the anus, frequent micturition, and pain in the bladder. On the fifth day he was hoarse, and exhibited pimples or vesicles around the mouth; and during the latter part of his illness (which became gradually more aggravated) there were coldness of the surface, sordes on the teeth, a livid circle around the eyes, failure of vision, and discharges of a bloody matter from the stomach. He laboured throughout under constant and excessive thirst, great restlessness, bloodshot conjunctivæ, and an anxious countenance. He also exhibited frequent *priapism*. The duration of the illness was eleven days and a-half. No medical assistance was obtained for him, but he was assiduously attended by his brother, who, although appearing not to have appreciated the nature of the attack under which he laboured, described his symptoms with much intelligence.

It is worthy of remark, that at an advanced period of his

illness he retained sufficient strength to leave his bed and enter a neighbouring cottage. He was buried on the third day after death. Suspicion having subsequently fallen on the accused parties, an exhumation was ordered, and performed forty-six days after death, by Dr. M'Evoy, of Balbriggan. The soil of the churchyard was described as calcareous, and consisting in part of loose shingle. The coffin was found split, and had been placed but from one to one and a-half feet beneath the surface[a]. The body was entire, of a greenish black colour, the cuticle peeling off, the surface moist, and the face worm-eaten. The abdomen was moderately distended with gas, and its interior manifested considerable *elevation of temperature;* the abdominal viscera were in a good state of preservation, having maintained their lustre and firmness unaltered, although discoloured, and exhaling a moderately fetid odour. The mucous membrane of the *stomach* was of a uniform light reddish brown colour, firm, and yielding on traction a flap of half an inch in length. There was no trace of erosion, ulceration, or bloody extravasation upon it, or in any other part of the alimentary canal. The submucous tissue was natural, both in colour and consistence; the inner surface of the stomach was rough and granular to the finger, owing to the presence of yellowish white crystals, partially imbedded in the lining membrane. These were found to consist of *ammonio-phosphate of magnesia.* At the second exhumation (see below) similar crystals were observed on the inner surface of the jejunum and ileum, on the endocardium, and in great abundance on the bronchial mucous membrane. The stomachic contents, or rather the *washings* of the organ, were of a dark reddish grey colour, turbid, and containing in suspension a quantity of silvery-looking and apparently fatty particles. The inner surface of the duodenum, which was dark brown, was smeared with a thick substance, of

[a] The mean diurnal temperature of the atmosphere, during the period of the first inhumation (forty-six days), was 58° F.; and during the interval between the first and the second inhumation was 60° F.

unctuous consistence, of a dark purple colour, and evidently containing much hematosine. The peritoneal coat of the concave surface of the liver presented streaks of an adherent white granular matter, which was found to be *sulphate of lime.*

On a second exhumation, which took place ten and a-half weeks (seventy-four days) after death (and was rendered necessary by the non-detection of poison in the stomach, which was the organ first submitted to me), the remainder of the abdominal and the thoracic viscera were found in good preservation, and the alimentary tract not materially altered, as compared with the portion examined on the first occasion. The mucous coat of the jejunum and of the ileum presented patches of pseudo-morbid staining, of various shades of brown and black. There were also several patches of vivid brownish redness, apparently inflammatory. The mucous glands in the lower part of the ileum appeared as slightly raised brown dots, beset with crystals of triple phosphate. The mucous coat was softened, the submucous natural, and the former copiously smeared with a viscid, greasy-looking reddish-black material, containing blood. In the great intestine the mucous membrane was of a reddish-brown colour; in the descending portion of the colon, lighter; in the rectum, reddish-grey, and presenting generally numerous small circular abrasions, with coloured borders formed by the softening and removal of the mucous glands. The contents were similar to those of the small intestine, and included thirty-four grains of *shot*, apparently uncorroded[a]. Traces of dissolved *lead* were, however, distinctly dis-

[a] The importance of a minute inspection of the intestinal contents is well illustrated by the present case. In consequence of the absence of a label on the coffin, and the altered state of the countenance, a difficulty arose at the trial as to the legal identification of the body; this was set at rest by the discovery of the *shot* in the intestine, as it was proved that a dose of the latter had been administered during his illness, by a well-meaning neighbour, as a means of alleviating pain; and inquiries having been instituted at my suggestion, the remainder of the shot was discovered in the house of the deceased.

coverable. The liver was very soft, fetid, and internally of an uniform rich olive colour; kidneys and spleen also softened; lungs scarcely so, but shrunken, lobuli distinct, parenchyma rather dry, and of a dark purple-red; the heart, flaccid, and destitute of blood.

Chemical Examination.—The contents of the stomach and of the small intestine yielded no evidence of the presence of arsenious acid. About one-twentieth of a grain was discovered in those of the colon. The *tissues of the stomach, small and great intestines*, and those of the *lung* (severally examined), afforded, by the process of Reinsch (preceded by carbonization with sulphuric acid), no traces of arsenic. The poison was discovered in full quantity in the *liver*.

No doubt could, of course, exist in the foregoing case, that death had resulted from the administration of arsenious acid. The usual objections were preferred against the individual items of medical proof; an attempt was also made by counsel to show that the poison discovered might have been derived from the shot administered as a medicine; arsenic, as is well known, being employed in the fabrication of that article. I had, however, found, first, that the shot evinced no evidence of its presence; secondly, that the latter was not disintegrated; and, lastly, having been administered on the eighth day of deceased's illness, could not have been the cause of the latter. The unfortunate error of Orfila, relative to the existence of so-called *normal* arsenic in the bones, and his subsequent partial recantation, which were elicited on cross-examination by prisoner's counsel, appeared also to have been not without their effect on the jury, as weakening the value of chemical evidence in general. The prisoners escaped conviction apparently on the ground that the arsenic proved to have been purchased by one of them, had been procured the day *after* the commencement of the husband's illness. There had, doubtless, been a previous purchase or possession of the poison. It is worthy of remark that the intestinal coats (although in a better state of

preservation than the liver) yielded no traces of arsenic, thus tending to support the view, which I have already advocated, of the *catalytic* action of arsenious acid as a preservative agent[a].

In the present instance of eleven and a half days' illness arsenic existed apparently in as great quantity in the liver, as I have found it in other cases, which had proved fatal in from seven to thirty-six hours.

I am indebted for the history of the following case, and for an opportunity of witnessing the inspection, to Dr. Wm. Geoghegan, Surgeon to the Kildare Infirmary.

Case II.—Six persons (five males and one female) partook of a cake, into which a tea-spoonful of white arsenic had been introduced in mistake for soda. The cake was served out for breakfast by the woman who had made it, although she had eaten a small portion of it herself on the preceding evening, and been seized with vomiting, which persisted during the greater part of the night. The males were of the respective ages of 47, 45, 22, and 21; the female aged twelve years. The individual (aged 47) who partook of the largest quantity (about one-quarter of the cake) sank under the effects of the poison, after an illness of thirty-six hours. The rest recovered. The latter had each partaken but of a small portion, but were, notwithstanding, seized almost immediately with severe vomiting. Nothing peculiar in the taste of the food was experienced by *any* of the parties (most of these persons had partaken of whiskey previously to their food). When seen, ten hours afterwards, three of the five who recovered (one of whom had previously taken an emetic) were free from pain, but laboured under heat and dryness of the skin, constriction of the throat and œsophagus, tightness and dryness of the chest, thirst, and a quick, wiry pulse. On the next day, although most of these symptoms persisted, with the addition of whiteness of the tongue, the sufferers left the hospital. On the third day they

[a] See a paper by the author, on the morbid appearances in arsenical poisoning, Medical Gazette, August 2, 1850.

were attacked with a miliary eruption, confined to the forehead, wrists, and feet.

In the fatal case vomiting supervened within five minutes after the cake had been eaten, and was frequently repeated. About an hour and a half afterwards, an emetic was administered. The patient was brought to the infirmary about twenty-five hours after having partaken of the poison, in a state of hopeless collapse; the countenance not much sunken, surface cold, pulse scarcely perceptible. The vomiting had ceased, but there were frequent calls to stool, with the discharge of small quantities of a brick-red fluid; there was little thirst, no complaint of pain, and no cerebral disturbance. He died in eleven hours after admission.

Inspection.—The body was examined eighteen hours after death, the weather at the time being quite cool, and the mean temperature 55° F. The neck and scrotum were very emphysematous; and twenty-two hours after death the subcutaneous areolar membrane generally was in the same condition. In thirty hours (the body having been removed) the intestines were dark green, highly fetid; and as they lay in a vessel evolved gas rapidly, with an audible bubbling.

Alimentary Canal.—The œsophagus presented some patches of vascularity, and its epithelium, which was emphysematous, was smeared with a little bloody mucus. Stomach: the lining membrane was coated slightly with a bloody fluid, and was of a rather uniform dark-red colour, with scattered blotches of black extravasation. The mucous coat was not softened, except at the splenic end, and presented numerous erosions, some of a rounded form, but the majority forming long, narrow, sinuous, and intersecting furrows, having a defined edge, destitute of hardness or special coloration, and exposing the submucous coat. They conveyed to the eye the impression that a narrow stream of some corrosive fluid had flowed in various directions along the inner surface of the stomach. The submucous coat was rather injected. The mu-

cous membrane of the rest of the digestive canal was of an uniform chocolate brown colour (apparently from imbibition of the contents). There was a good deal of submucous injection of the colon, the transverse and descending portions of which showed a few small blotches of ecchymosis beneath the mucous surface. No trace of ulceration was discoverable. The liver was soft and emphysematous from putrefaction.

Chest.—Anterior surface and margin of the right ventricle of the heart presented blotches of ecchymosis beneath the serous membrane; none on the endocardium or valves; muscular tissue of the organ soft. Lungs: posterior part of both much engorged with blackish, semi-coagulated blood, giving to the part the appearance of pulmonary apoplexy; the tissue broke down readily under the finger. No fluid in bronchial tubes, whose mucous surface was green. The blood in the great systemic and hepatic veins was fluid; that in the cavities of the heart and great thoracic vessels dark-coloured and coagulated, with the exception of that of the right ventricle and ascending aorta, where it was semi-fluid. Numerous globules of oil and air, were seen floating in the blood of the aorta, pulmonary vessels, and venæ cavæ hepaticæ.

Chemical Examination.—No traces of arsenic were discoverable, either in the stomachic contents (small in quantity and chiefly a bloody mucus) nor in those of the rectum. There were dubious indications in those of the jejunum, and distinct traces in those of the colon. The poison existed in full quantity in the tissue of the *liver*. None could be found in the *heart or lungs*, nor in *the blood*.

The rapid progress of putrefaction of the entire body in the present case is remarkable, both as occurring in a form of death where its preservation, in whole or in part, has been so often observed, and as taking place under the adverse condition of cool weather. It is to be particularly noticed that the liver, in which absorbed arsenic was detected in fully the usual quantity, participated in the decomposition as fully (due

allowance being made for difference of tissue) as the heart, lungs, and blood, in which none could be discovered. The chemical facts, also, in conjunction with those in Shalvey's case, No. I., tend both to fortify the catalytic theory of the action of arsenic as an antiseptic, and to show that intrinsic conditions (perhaps of the blood) are sometimes adequate to nullify that action completely.

Case III.—L. L., aged 43, a married woman of intemperate habits, left her home early on the morning of the 9th of March, 1844, and called on a friend to borrow some pence, which she stated she required for "a very particular purpose." She returned home at midnight, drunk, and was attacked with vomiting, which continued during the night, accompanied by bilious purging and violent thirst. During the next day the vomiting and purging were less violent. She was free throughout from restlessness or pain, and shortly before death expressed a wish to sleep. The surface of the body and the extremities were warm until a short time previously to the fatal event, which took place seventeen hours after her return.

Inspection, twenty-two Hours after Death.—Mean temperature 46° F. Some livor of the posterior surface of the body; rigor mortis well marked, and continued so for forty-one hours after death, at which period the abdomen had become greenish from incipient putrefaction, the rest of the body being quite fresh.

Alimentary Canal.—Epithelium of mouth remarkably white and opaque; velum palati pale, and having a macerated and wrinkled appearance; on opening the abdomen a most oppressive, sickly, and rather feculent odour was exhaled, which proved to be due to the stomachic contents, consisting of a quart of turbid, orange-coloured, and rather viscid fluid. Stomach: the mucous membrane of the body and splenic end had acquired a tolerably uniform orange colour by imbibition of the contents, accompanied in part by a tinge of redness, but without vascular injection. In the former part there were a couple of small pe-

techial ecchymoses. The pyloric third presented three distinct blackish-red ridges, projecting at least a quarter of an inch above the adjacent surface, and crested with a white, curdy-looking matter, which adhered with considerable firmness, and proved to be arsenious acid incorporated with mucus. These ridges were firm, and, when the coating was removed, rough to the feel; a section having been made, they were found to be formed exclusively of the mucous membrane, having blood incorporated with a part of its tissue. In the vicinity of the ridges the latter was thickened and indurated, yet but little altered in colour; there was also a circular blotch of adherent arsenic, and beneath it a rough, fungous, and highly thickened mucous surface, but no appearance of black extravasation, ulceration, or slough; at the splenic end arsenic was scattered over the surface, as a gritty and glittering powder; the membrane of this part was not thickened, and gave a flake of one-third of an inch on traction; the pyloric end yielded one, of an inch and a half. The mucous coat was injected at the pyloric end, elsewhere natural. Duodenum lining membrane dark-red, arsenic scattered over its surface; mucous membrane of jejunum and ileum not thickened; contents, a considerable quantity of thick material slightly coloured with blood, and mixed with white flakes. Great intestine: mucous membrane natural in colour and consistence throughout: contents, a thick uniform matter of grey colour, small in quantity. Ramiform submucous injection of both small and great intestines.

Thorax.—Heart: right auricle loaded with black, firmly coagulated blood; a little in the left auricle and right ventricle; a couple of non-elevated blotches of ecchymosis, about the size of a pea, beneath the endocardium of the latter.

Lungs: posterior part gorged with dark, semi-fluid blood, apparently extravasated in the tissue[a].

Blood: dark-coloured, and quite fluid in the abdominal

[a] Maceration restored the natural texture.

cava: in heart and lungs, as above[a]. The uterus was lined with decidua; and a large corpus luteum was apparent in the left ovary; no ovum could be discovered. The deceased had menstruated about six weeks before death, and the breasts exhibited a tolerably well-marked areola.

The intestinal canal (removed from the body) showed signs of putrefaction twenty-four hours after death, and the great intestine was quite putrid in forty-eight. The stomach and uterus were quite fresh on the third, and the muscular tissue on the fifth day. (Mean temperature of interval of five days, 42½° F.)

Chemical Examination.—Arsenious acid was readily found in the stomachic contents, and coating the ridges described; a trivial quantity in the contents of the small intestine; very dubious traces in those of the colon; none in those of the rectum. The poison was discovered very distinctly in the tissue of the liver, freed from blood by division into small fragments, and repeated maceration in distilled water. The quantity was eight-tenths of a grain for the entire organ; and traces were also found in the tissue of the *uterus* and lung, and also in the texture of the muscles, in the proportion of one-thirteenth of a grain to the pound. No trace of arsenic could be found in the venous blood (owing to an accident, a small quantity only was examined), in the blood extracted by maceration from the liver, nor in the *bile*. The urine was not examined, there being very little in the bladder.

Case IV.—Mr. Tagert, Surgeon to Mercer's Hospital, as kindly permitted me to publish the following case:

C. Sheridan, aged 25, committed suicide by swallowing

[a] I have noticed in many inspections the erroneous nature of the view so generally entertained, that, in a given form of death, the blood is to be found throughout the body in the same condition. The observations of Bernt (Beiträge zur gerichtl. Arzneikunde ii. 231), on this subject, are worthy of attention.

arsenic mixed with water; the quantity could not be ascertained[a]. A quarter of an hour afterwards there were stinging sensations in the mouth and pharynx, with giddiness; in forty minutes, nausea, and a flow of viscid saliva from the mouth, with heat of fauces, stupor, small and frequent pulse. After the employment of the stomach pump (when the organ was well washed out), she experienced relief, and then complained but of slight headach. Vomiting soon after supervened, and continued incessantly till near death, which was preceded by much cramp of the legs. There was some purging. Death occurred in nine hours.

Inspection (at which I was present), *nine* hours after death.—Weather moderately warm (mean temperature 59½° F.); body quite fresh, and continued so for thirty-three hours after death.

Alimentary Canal.—Tongue: papillæ very prominent, uvula and fauces corrugated and white. Stomach: peritoneal coat vivid red, its vessels not much injected; mucous membrane thickly studded with small, vivid red blotches or stellæ, arranged in serpentine intersecting lines, the intervening spaces of which were still more closely beset with minute red dots; two or three small patches, apparently of extravasated blood, were evident in the body of stomach; membrane at the pyloric end of natural consistence and adhesion, but opaque; that of the great extremity softened and a little swollen, more easily detached than natural; no adherent arsenic. Contents, a quart of orange-coloured fluid, turbid and viscid, with a little bloody mucus. The mucous membrane of the duodenum reddish and swollen; mucous glands enlarged; ileum natural; contents of both, a yellow mucous fluid. Great intestine: some redness of the mucous coat of transverse portion; submucous ramiform injection of great and small intestine. Contents of colon, a yellowish white fluid of starchy consistence. Liver healthy; gall-bladder containing a little bile; spleen granular and soft;

[a] No inquiry was made as to the taste of the draught.

kidneys and urinary bladder natural; ovaries dark-coloured; lining membrane of uterus and Fallopian tubes vascular. Chest: some frothy fluid in the larynx and trachea; lining membrane between the rings red; posterior part of lungs engorged, giving out a frothy fluid on section, and a purulent-looking one from the bronchial tubes; membrane of the latter red. Heart: no trace of ecchymosis on lining membrane; right auricle full of *fluid* blood; right ventricle and left cavities empty. Brain and its membranes natural. *Blood:* generally dark-coloured; but *vivid red,* and in small quantity, in the *aorta.*

Chemical Examination.—Arsenic was detected in the stomachic contents, in the tissue of the organ, and (in small quantity) in the mucous fluid of the great intestine. It was also found in the liver by the method of Reinsch. For a considerable period, the dried fragments of the latter evolved a strong alliaceous odour, which was equally perceptible in the kidneys. A quantity of the dried liver corresponding to one pound of the recent organ (after the odour of garlic had been replaced by a totally different one) yielded 0·15 grains, which would give for the entire liver, half a grain (q.p.) No doubt, much of the poison had escaped as arseniuretted hydrogen. The blood, when dried by exposure to air, exhaled an alliaceous smell, and afforded (when examined some time afterwards) faint traces of arsenic. The muscular tissue gave no decisive evidence of the poison.

It was remarkable that the dried fragments of the organs, while exhaling the garlic odour (and not previously), were attacked by small, transparent mites (resembling an acarus under the microscope), which fed on them for a long period, despite of the atmosphere in which they were placed. I have observed the same occurrence in other cases.

Case V.—Mary Cullen was indicted, at the Wexford summer assizes, 1846, for the murder of her brother. The evidence and the prisoner's confession proved that she had on two occasions purchased, and on a specified day deliberately

thrown, arsenic into water which was being boiled for the purpose of making porridge; of which food the deceased and his three brothers, and mother, partook, as also a poor woman who called at the house: the prisoner, too, afterwards ate some of the porridge[a]. Four of these parties died; three of them after an illness of from five and a-half to seven hours, and one in fifteen hours. A hen also that ate some of the food died in a few hours. The mother suffered but slightly, the prisoner more so, and one of the brothers recovered, but suffered from an illness of some duration, which, after the lapse of a month, still manifested its effects in partial paralysis of the lower extremities, and desquamation of the cuticle. The prisoner was acquitted, *on the plea of moral insanity, on the most frivolous evidence.* No indication of mental unsoundness was discoverable on careful examination, either by the physician of the gaol, Dr. Boxwell, or, subsequently to the trial by myself, nor (as I am informed by a late visitant of the lunatic asylum) has the prisoner since shown any signs of insanity. If not traceable to other influence, the crime may have been committed under that condition of moral perversity not uncommonly observed in the hysteric state. Whether such disturbance of the *affective faculties* only, should absolve from criminal responsibility, has been lately the subject of much and subtle discussion amongst psychologists, nor is the question as yet satisfactorily adjusted.

The illness of the suffering parties was characterized by nausea within fifteen minutes after the meal, vomiting (at first bilious, then bloody), burning pain in the stomach, *slight* tenderness of the epigastrium, and constant thirst. There were also flushed countenance, headach, and suffusion of the conjunctivæ,

[a] In the latter particular this case resembles that of Elizabeth Fenning, which created so much public interest in London several years ago. Although the intrinsic merits of the two, seem to have been pretty similar, the accused in the present case had a more fortunate fate. A report of the trial may be found in the Medical Gazette, vol. iii. p. 424, 1846.

faintings, quick, small pulse, and cold extremities. One of the sufferers complained, *during the meal,* of the "queer" taste of the food. The bodies were examined by Dr. Goodall, forty-eight hours after death, when putrefaction had made as much advance as might be expected from the date of the examination and the existing temperature. Externally there was nothing remarkable. The stomach and intestines were inflated with air; in three there were patches of very dark redness on the mucous membrane; in one, the lining coat presented an uniform sheet of the latter colour. The submucous coat was congested. The stomachic contents consisted of a small quantity of turbid brown fluid, in one, containing a good deal of altered blood. The brain (examined in one case) was congested on the surface, and the lateral ventricles distended with limpid serum. The blood, as far as examined, was fluid. The bodies were exhumed, at my request, a month after interment[a], at which period the integuments and muscles were somewhat dried; and part of the intestinal canal of one, and the livers of all four, having been transmitted to me, I found them in good preservation, maintaining their colour, firmness, and lustre completely, and showing inflammatory patches in the great intestine of one, with a vivid freshness. The odour of the parts was offensive, *rancid, and diffusive, quite different from that of ordinary decomposition;* and the dried fragments of the liver (containing arsenic) still (January, 1851) maintain a distinct *acid* reaction. A portion of the stomachic walls of two (containing arsenic in the usual amount), which have been macerating for four years and a-half in the non-arsenical contents, are, like the latter, ammoniacal, while the contents of another case, which yielded arsenic freely, were acid, a month after death, but fetid. The peritoneal and submucous coats of the former retain their physical characters scarcely impaired; the muscular and mucous (particularly the latter) are soft and swollen.

[a] Mean temperature of interval, 65° F.

Chemical Examination.—The stomachic contents (two and a-half ounces) of one of the cases (which proved fatal in about seven hours) yielded 1·2 grains arsenious acid. None could be found in those of the others (which were respectively fatal in seven, seven, and fifteen hours). Absorbed arsenic was also distinctly indicated in the *tissues* of the stomach of two, and in the muscular structure. The liver of one (fatal in seven hours) yielded half a grain; of the one fatal in fifteen hours, 1·2 grains. The *skin*, *areolar membrane*, and *fat*, separately examined, did not afford a trace. The porridge contained about one grain to the fluid ounce. The exhumed viscera in the above cases afforded good specimens of what I have elsewhere[a] designated as *rancid putrefaction.*

Case VI.—Jane Maher and Garret Lynam were indicted at the Kildare Spring Assizes, 1847, for the murder of Mr. R. Grattan, son of Dr. Grattan, Fellow of the Royal College of Physicians, and an esteemed magistrate of the county.

The transaction arose out of the prejudice entertained at the time to the use of Indian meal as food, and which the servants of Dr. Grattan had refused to eat. In about a quarter of an hour after having breakfasted on oatmeal flummery prepared by the female prisoner, the deceased and six other members of the family were seized with bilious vomiting and other symptoms of arsenical poisoning, from which they suffered for variable periods. The deceased died in about twenty hours, in a state of collapse. I am unable to furnish in detail the symptoms of the rest: in some of them pustules appeared on the forehead during the progress of their illness. Two of the party observed that the food produced in a very few minutes (five to seven) a burning in the throat, but did not experience any distinct flavour in the act of eating. Neither of the prisoners partook of the flummery. On the previous day the remainder of the *Indian meal* stirabout, on which the family had

[a] Medical Press, April 17, 1850.

breakfasted, had been given by the female prisoner to the calves (although she was not in the habit of feeding them). Three of the latter speedily died. The stomach of Mr. Grattan, when forwarded to me seven days after the occurrence, was so altered by maceration, that any morbid alterations which may have existed had disappeared. The contents (seven fluid ounces) were of a feculent colour, of a rancid, nauseous odour, and had a strong acid reaction.

Chemical Examination.—The contents yielded no evidence of arsenic, but one-tenth of a grain was discovered in the tissue of the organ (by carbonization with pure sulphuric acid and precipitation, by the method of Reinsch). In one of the calves the lining coat of the stomach was inflamed, and the contents yielded arsenic. The flummery was grey, heavy, and exhaled, when first exposed, a marked alliaceous odour, and contained, in less than a table-spoonful, about six grains of arsenious acid. The steeped seeds, from which the flummery had been prepared, gave no trace of poison, nor yet a specimen of the unboiled Indian meal. Hence the chemical inquiries alone indicated it as most improbable that the poisoning was accidental, and, conjointly with the general facts, rendered it impossible. Although the moral evidence was also strong, the jury, however, did not convict the prisoners.

It is worthy of remark, that at the end of eight months the membranes of the calf's stomach were quite firm, little altered in colour, and, like the contents, had a strong acid reaction, which they still (January, 1851) retain undiminished. The tissue is now softened and discoloured, and the odour is highly rancid.

Case VII.—Mary J. Middleton and her mother, C. Rooney, were indicted at the Leitrim Spring Assizes, 1849, for the murder of the husband of the latter. The deceased, a farmer, previously quite healthy, had partaken of luncheon with his son-in-law and another person. The food, which was served by his daughter, consisted of griddle-bread and tea; the former having been divided (as is usual) into separate portions, pre-

viously to being baked. In about three-quarters of an hour afterwards deceased became ill, and died in *eight hours.* The other parties were quite unaffected. Rooney made no remark as to the taste of the food. His symptoms were, vomiting purging, tenesmus, hoarseness, pain in the loins[a], and coldness of the extremities. There was no thirst nor burning of the throat. On the next morning, a woman of the household made a flour cake, in the same bowl which had been used for preparing the bread above described, and a remnant of the dough of the latter still adhered to the bottom. The daughter of deceased and her husband partook of this second cake *without any injury.* The maker of it next proceeded to prepare a small one for herself, from the scrapings of the bowl. Although the food was eaten deliberately, no taste was experienced. About three-quarters of an hour after, she was seized with vomiting, giddiness, and thirst; a sensation of burning in the gums and tongue; and on the cessation of the vomiting, purging occurred. She was ill for four or five days. *Her infant,* whom she *suckled twice* after having partaken of the cake, was affected on the next day with *purging.*

Middleton and her sister professed illness, in consequence of having partaken of the bread at the same meal with the deceased; the symptoms assigned by both were, however, so trivial, and, in the case of the latter, were stated to have come on so many hours after eating, that little credit deserves to be given to their averment.

The body of deceased was examined three days after death, and was then (the weather being cool) in perfect preservation. The mucous membrane of the stomach and upper part of the small intestines, and a patch in the cæcum, were reported by Dr. Davis, of Manor-Hamilton, to have been highly inflamed, and the contents of the stomach to have been a thick red fluid.

[a] In the case of the Rev. T. Maguire, for whose murder parties were tried at the same assizes, violent pain in the loins was complained of, and I believe the kidneys were found congested.

When examined by me, thirteen days after death, the latter were of the colour of coffee-grounds, of a peculiar odour, and strongly acid, having quite the physical characters observed in poisoning by oxalic acid. I found a large tract of the mucous membrane of the splenic end and body of the stomach of the same colour as the contents; the coloration terminating quite abruptly some distance from the pylorus. The posterior wall of the splenic end was of a uniform red, with a couple of blotches of black extravasation, very readily removed by slight scraping, and leaving behind the appearance of erosion. Near the pylorus was a fine punctated vascularity. The mucous coat of the body and splenic end was much softened (from imbibition of the acid contents); that of the pylorus thickened, and yielding a flake of more than two inches. Submucous coat, with a trivial exception, natural. The lungs were congested. The liver, kidneys, and urinary bladder healthy. The blood in the vessels generally, and in the lungs, coagulated.

Chemical Examination.—The contents of the stomach indicated freely the presence of arsenious acid, and are now (December, 1850) as fresh as when first received. Arsenic was found in a portion of the cake eaten by deceased.

The accused parties were acquitted, apparently from defective proof of guilty administration. The transaction was believed to have been connected with pecuniary matters.

The foregoing history may serve to impress medical witnesses with the necessity of inquiring accurately into the general facts, and the preparation of the food, in cases of poisoning, and of making allowance in their inspection for pseudo-morbid changes.

Case VIII.—Bridget M'Cullagh was indicted for the murder of Margaret Jackson, at the Commission Court, Dublin, in 1837.

The parties were servants, residing in a family at Clondalkin, and had been previously healthy. The deceased and the butler were seized with illness very shortly after having

partaken of tea made by the prisoner, who, although present, did not join in the meal. The subsequent expressions of the latter rendered it probable that the poison had been dissolved in the boiling water, previously to the infusion of the tea.

The motive which led to the occurrence was vexation on the part of the prisoner at the discovery of her illicit amours, which had been made by her fellow-servants. The accused was convicted. The butler, having taken a cupful of the tea (which was found to contain about three grains to the fluid ounce of arsenious acid in solution), at once experienced a very unpleasant taste, and in less than five minutes became giddy and sick; bloody vomiting and uneasiness in the fauces succeeded, and some illness was experienced for the next two days. No observation as to the flavour of the tea appears to have been made by the deceased, who took about the same quantity, and was very soon attacked with violent retching and burning in the throat. Dr. M'Crea, who visited her the same day, found her labouring under great headach, much suffusion, and some swelling of the face; injected conjunctivæ, constant itching of the eyebrows and forehead, white tongue (with red tip), incessant thirst, great pain in the stomach and bowels, shivering, and coldness of the surface. In some hours afterwards there was bilious purging, which did not recur.

Next day's history indicated, in addition to the preceding, great difficulty of breathing, insomnia, and constant agitation. On the fourth day there was a marked remission of all the symptoms, and the patient declared herself "much better." This calm was but of a few hours' duration; she sank, in a typhoid state, four days and twenty hours after the ingestion of the poison.

The body was inspected thirty-six hours after death, the weather (September) being cool, and was perfectly fresh. Externally, dark and desquamating areolæ of the eye-lids; sordes about the mouth. On the inside of each cheek was an elevated spot of ulceration, covered with a yellow coating, and a par-

tially red border. Æsophagus: epithelium of a yellowish brown colour.

Stomach: peritoneal coat rose-coloured; mucous coat, at the splenic end, of a brick-red hue, showing scattered petechial ecchymosis, and covered with an open net-work of vividly red streaks. Rugæ well marked. Pyloric end yellowish red; a small and solitary erosion of the mucous membrane, which was generally of natural consistence, though a little swollen; contents, a thick bloody fluid, in small quantity; submucous coat natural. Duodenum: mucous membrane brownish red; valvulæ conniventes darker, and in some places thickened, and showing petechial blotches. The jejunum and ileum presented similar appearances, increasing in intensity in the latter, as it approached the cæcum. There was also much submucous ramiform vascularity of both cæcum and colon; ileo-cæcal valve much thickened; mucous membrane dark reddish-brown (less so in transverse colon); rectum, some redness and petechial blotches.

Respiratory Organs.—Epiglottis nearly natural; pharyngeal membrane in the neighbourhood of the glottis deep red; that of trachea and bronchi vivid red, with frothy red fluid in the latter. Posterior part of both lungs much congested with dark blood, giving, on section, an appearance almost amounting to extravasation.

Heart and brain natural.

Dr. Beatty (then Professor of Forensic Medicine to the College) found no trace of arsenic in the stomachic contents, but discovered it in the tea, in the proportion of about three grains to the fluid ounce.

The deceased appears to have taken about twenty-four grains in solution.

This case exhibits very vividly the influence of the poison on the mucous surfaces.

Case IX.—In reference to the following cases, I was consulted by my friend, Dr. Sibthorpe, assistant to the Lying-in Hospital. Mr. and Mrs. P., and their family, consisting of six

persons, residing near Dublin, were attacked after breakfasting on tea, &c., with symptoms of poisoning. The father (aged 56) and one daughter (aged 20) died after an illness of ten days and a-half, and thirteen days and twenty hours, respectively. The rest, who were mostly under fifteen years, recovered, having been affected during periods varying from three to twenty-five days. Some of the sufferers partook of tea *only*, and the two deceased were said to have taken it more freely than the rest. None of them observed any peculiar taste. After an interval (in one case of fifteen, in one of thirty, and in four of sixty minutes), they were seized with illness. The symptoms of the father were, first day, green vomiting, hoarseness, and thirst, with a remission towards evening; second day, same; third day, no vomiting, but thirst; fourth day, vomiting after *eating eggs and drinking porter;* fifth day, no vomiting, loss of appetite; seventh day, vomiting, with occasional bloody purging and tenesmus, short cough, and difficulty of breathing, which latter continued till death; eighth day, much vomiting, less purging, headach, great weakness, loss of sleep; ninth day, purging more bloody, pain in stomach, tenderness of epigastrium, painful micturition; eleventh day, he died, having been sensible to the end. It is to be noticed, that on the first three days, and on the fifth and sixth days of his illness, he went on a car to town, *to transact business.* His symptoms were manifestly aggravated by errors in diet. The illness of the daughter was characterized by vomiting, latterly of a green insoluble bile, purging, and collapse; there was subsequently desquamation of the cuticle of the face, with hoarseness, and towards the close small spots of purpura on the neck. On the day preceding death there were cough and muco-crepitant râles (without dulness) in the posterior part of the lungs. She sank with typhoid symptoms. Of the survivors, one had headach, and another giddiness, as the first symptom, and one *did not vomit for six hours.* One only had roughness of the throat; one, vesicles about the mouth; one had cough; one, *bright green* coating of

the tongue; one, swelling of the feet; two, partial paralysis (in one, of sensation in the fingers, and in the other, of motion in the lower extremities); three had hoarseness; three, desquamation of the cuticle (some of the hands, others of the neck and nostrils); five had thirst. The body of Mr. P. was examined forty-five hours after death (mean temperature of interval, 54° F.), and the abdominal viscera transmitted to me for inspection on the same day, when I found them exhaling a very putrid odour, which speedily increased. The liver, on the contrary, was but slightly putrid. The lining coat of the œsophagus presented black spots, about six inches from the stomach. The mucous coat of the latter organ was reddish grey, with various shades of brown (from decomposition). A black patch of the size of a sixpence was observed near the cardiac orifice, and near the pylorus several convex and slightly indurated spots of black extravasation, the altered blood on some of which could be easily wiped off, leaving behind a grey-coloured erosion. The membrane at the splenic end was soft; the contents consisted of some slightly bloody mucus. Duodenum: mucous membrane of upper part, thickened and granular. Jejunum: some staining of lining membrane from imbibition of contents, which were of a light brown, thick, and turbid. Mucous membrane of ileum in middle and lower part, red, swollen, and somewhat softened, with a little petechial ecchymosis. Pseudo-morbid staining of the mucous coat of the great intestine, from putrefaction. Contents small in quantity and reddish-grey, and moderate ramiform vascularity of submucous coat of both small and great intestine. Liver very soft (patient had lived freely). Kidneys slightly congested.

Chest.—Mucous membrane of larynx and bronchi dark red. Lungs natural. Coagulated blood in the ventricles of the heart in small quantity. No ecchymosis on the valves or endocardium.

Chemical Examination.—The contents of the stomach and those of the great and small intestines, separately examined, gave no trace of arsenic; absorbed arsenic was discovered in

the *liver* in the proportion of nine-tenths of a grain for the entire organ. The tissue of the small and great intestines, of the spleen, pancreas, kidneys, and lungs (individually examined), yielded no trace of the poison.

At the inspection of Miss P.'s body, ten hours after death, the following observations were made by myself:—Rigor mortis well marked; exterior of the body and muscular tissue unaltered, and continued so twenty-four hours afterwards. The intestines, on the contrary, had entered into putrefaction fifteen hours after death, and had made much advance on the next day, at which time the parenchymatous organs (liver, lungs, &c.) were still fresh.

Alimentary Canal.—The mucous membrane of the stomach was universally red (with an occasional tinge of orange), vividly so at the splenic end; the vascularity being chiefly of the fine punctated variety. Some florid petechial blotches occupied the summits of the rugæ; there was no black extravasation; ramiform injection of the submucous tissue, and of the large blood-vessels of the stomach; contents, a thick orange fluid. Mucous membrane of duodenum, olive, with tinge of red; that of the ileum (especially at the lower part) presented tracts of a dark purple, most intense on the valvulæ, with some petechial blotches: the last few inches betrayed a mottled redness, with enlargement of the mucous glands. The upper part of the small intestine showed much submucous ramiform injection; the contents were orange-coloured, and partly reddish. The lips of the ileo-cæcal valve were swollen and infiltrated; the mucous membrane of the cæcum vividly red, as was that of the colon and rectum. In the latter there appeared a slight aphthous ulceration; liver and spleen healthy; tubular portion of the kidneys injected with dark blood. There was a little urine in the bladder.

Chest.—Lining membrane of trachea and bronchi, red; tubes containing a little bloody froth; lung dark-coloured, presenting posteriorly indurated, dark-coloured, friable masses of the

size of a walnut, apparently of blood extravasated in the tissue, but yielding up their colour on maceration, which left behind a more solid structure than natural. The intervening portions of the pulmonary texture were red, engorged, and partly hepatized. The pericardium contained three ounces of amber serum. One of the carneæ columnæ of the left ventricle showed a small blotch of ecchymosis; none on the valves; a small quantity of coagulated blood, mixed with fibrine, occupied the ventricles. The blood in the right auricle and great veins was dark-coloured and fluid, but coagulated on being removed from the body, yielding a milky serum.

Chemical Examination.—The contents of the stomach, and those of the small intestine, afforded no indication of arsenic. The liver yielded a very small quantity (probably not much exceeding one-tenth of a grain for the whole), but still sufficient to give truncated octahedres by sublimation from copper, and characteristic precipitates with sulphuretted hydrogen and ammonio-nitrate of silver. The tissue of the small and great intestine, and that of the kidneys, spleen, pancreas, lung, and brain (separately examined), furnished no traces, nor could any be discovered in the subcutaneous fat[a], bone, or blood.

In the case now described, the mischief appears to have probably arisen from the accidental contamination of the sugar (purchased at a suburban grocer and general dealer's), inasmuch as the same parcel of tea had been previously and since used without inconvenience, and as there was no reason to suspect the milk: none of these matters were, however, submitted to me for examination by the authorities.

Case X.—I was consulted by my friend, Dr. Aquilla Smith, in the following case. He was kind enough to submit the stomach to my inspection.

[a] Millon (Annales de Chimie, February, 1847), found antimony, at the expiration of three and a half to four months, in the fat, bones, liver, and occasionally in the brain, of animals subjected to a ten days' course of tartar emetic in food.

A woman, past the middle age, committed suicide in Baggot-court, January, 1850, by swallowing arsenious acid (quantity unknown); death took place in sixteen hours; the symptoms were vomiting, purging, and thirst.

The body was exhumed at the end of a week, at which time it was perfectly fresh. I observed the following appearances in the stomach:

The peritoneal coat presented a diffuse redness, and, towards the splenic end, a brownish tint. There was a marked contraction of the muscular coat about three inches from the pylorus. The mucous membrane was found at the splenic end, of a mottled reddish brown colour, covering a stratum of coarse, ramiform, submucous injection, soft, and presenting a few petechial ecchymoses, and one or two erosions, with an undefined border, which exposed the unaltered submucous coat. The body of the organ exhibited an arrangement of dark, blackish-purple streaks of extravasated blood, deposited in the substance of a softened mucous membrane, and capable of ready removal by the nail. These streaks were then made up of a close aggregation of irregular blotches. Amongst these lines there were interspersed a few of the lighter-coloured petechial (fluid) blotches observed at the splenic end. The remainder of the mucous surface was of a brown red, which ceased abruptly at the contractions, between which and the pylorus the membrane was grey, and coated with viscid mucus of the same tint where untinged by bile. The mucous membrane generally was softened, not capable of being peeled off at the splenic end, but yielding on traction in the body and towards the pylorus, flaps of one quarter and one-half of an inch respectively. The submucous coat, except in the cardiac region, seemed free from injection. There was no trace of true ulceration in any part of the organ. The contents were formed of a uniform reddish fluid (twelve fluid ounces) of the consistence of thin gruel, and depositing brown flocculi; this fluid was of an acid reaction, and included a considerable quantity of insoluble hematosine. The

mucous membrane of the duodenum was reddish, and apparently a little thickened, and presented an oval ulcer of the size of a sixpence, with a thick, elevated edge, its surface exposing the submucous, and in the centre the muscular coat. As the patient had previously complained of pain in the region of the stomach, it is probable that the above ulcer was the result of antecedent disease. Arsenious acid was freely indicated in the contents of the stomach.

I shall now state, as bearing on the antiseptic influence of arsenic, that eight weeks after death (the stomach having been kept in a loosely covered vessel), the morbid appearances were not materially altered; the organ exhaled but a faint sickly odour, and less than it previously had, and the mucous membrane was rather firmer than before. Nine weeks and a-half after death, the black extravasation was quite distinct; in twelve weeks little changed, and the coarse ramiform injection slightly altered: the tissue was neutral to litmus. After this the latter, though quite firm, became ammoniacal; odour sickly, and quite peculiar. Nineteen weeks after death, the three outer coats of the organ, and the pyloric mucous membrane, were quite firm. Twenty-one weeks, black extravasation still visible; organ green, with the ordinary fetor. In thirty-two weeks the parts had somewhat desiccated, and were now attacked by small flies, numerous pupæ of which were discovered on the surface. In thirty-four weeks (the tissue being drier) a marked alliaceous odour was perceptible. The surface of the organ was covered by a brown powder, which (viewed by the lens) consisted of a multitude of transparent mites, or acari, in lively motion, in which state they were still to be found at the end of forty-two weeks, when the garlic smell was as strong as ever. Numerous small flies also had been attracted to the vessel, and remained in the interior for several days with perfect impunity.

Case XI.—Anne M'Enerny was indicted at the Cavan Lent assizes, 1844, for the murder of her son-in-law, James Brady.

The parties had disagreed relative to the marriage portion. The deceased had been in good health previously to his having partaken of supper given him by the prisoner, which consisted of potatoes and buttermilk. *Three hours* after the meal (having in the mean time retired to rest), he was seized with vomiting and shivering, which did not last long, but was renewed in the morning, recurring when he drank; subsequently, burning in the stomach, great tenderness of the epigastrium, and cramps. On the last day, coldness of the extremities, sunken countenance, failure of vision, and tympanitic belly. Death took place after an illness of sixty-three hours. The inspection was performed by Dr. Nixon, of Ballyjamesduff, and took place forty-eight hours after death. The body, and particularly the abdomen, was inclined to putrefy (weather cool; mean temperature 55° F.) The peritoneal coat of the stomach much injected; the mucous membrane was much inflamed, particularly at the cardiac end. In this part there were streaks of coarse and dark-coloured ramiform submucous injection; numerous slightly depressed blotches of black ecchymosis of variable size, larger towards the cardiac end, were scattered over the surface; some of them surrounded by red areolæ. The membrane (at this point only) was much softened. Four days after death, the organ had somewhat advanced in putrefaction, and the mucous coat had now become softened, and slightly emphysematous; flaps on traction were furnished in the pyloric end and body, of an inch and one-eighth of an inch respectively; none could be raised at the splenic end.

The contents of the stomach (acid to litmus) consisted of four ounces of a viscid, turbid, reddish brown fluid, evidently containing blood, and having a peculiar *rancid* and fetid odour. They afforded no decisive indication of arsenic. A few masses, however, of the poison, were scattered over the mucous surface, on which there was no tenacious mucus. No other parts were forwarded for chemical examination. The chief feature of interest

in the above case is the long interval which elapsed between the ingestion of the poison and the incipient manifestations of its action. The trial was stopped by the presiding judge, on the ground of deficient proof of administration.

Case XII.—I am indebted for the following case to Dr. Leeson:

M. G., aged 56, a hardware dealer, committed suicide by swallowing arsenious acid, in April, 1845. The dose, as far as could be ascertained, was about one and a-half ounces. He sought medical advice three hours from the commencement of his illness, when the hydrated sesquioxide of iron was freely administered, with relief to the vomiting. Death took place in twelve hours after the ingestion of the poison. The symptoms were: vomiting, streaked with blood, purging, dark areolæ around the eyes and mouth. There was neither pain on pressure of the epigastrium, stupor, nor convulsions. The stomach, when submitted to my examination, exhibited the following appearances:

Mucous membrane of the splenic end and body of the organ:—numerous slight elevated streaks, in the former rusty coloured (from oxide of iron), in the body red, and covered by closely adherent patches of a brownish white matter. The pyloric end showed a couple of large rounded patches of elastic coriaceous fibrine (admixed with particles of arsenic), closely adherent to the mucous membrane, which was found beneath, much swollen, rough, and vividly red. Elsewhere the lining coat betrayed no deviation from the natural colour, and yielded, on traction, a flake of one quarter of an inch at the splenic, and one-half of an inch at the pyloric end. There was no black extravasation, ulceration, or erosion. Submucous coat, some ramiform injection at the splenic end; elsewhere natural. The stomachic contents turbid, and of a chocolate colour (iron); yielded arsenic on examination[a]. Colon

[a] After some time the contents yielded, when filtered, very little arsenious acid, the latter having become united with the oxide.

much contracted; spleen rather soft. There was urine in the bladder.

Case XIII.—In the latter end of May, 1850, I was called out of town to visit two children of Mr. R., to each of whom a teaspoonful of rat powder (a mixture of arsenic and flour) had been given the preceding evening, at bed-time, in mistake for magnesia. The younger was a boy, aged two years, the elder, a girl, of four, both previously healthy; they had dined, about four hours before, on meat and vegetables. Neither of them complained of the taste of the dose, which was administered with milk and sugar. It was stated that the younger drained the cup from which his sister had taken her dose, and that the latter had, perhaps, dined more heartily than her brother.

The boy awoke an hour afterwards, with vomiting, which recurred at intervals throughout; he was restless and cold, the countenance sunken, with dark areolæ around the eyes, and shortly before death he was sleepy. He did not complain of pain, except when questioned, and then referred it to his throat, which Dr. Maguire, of Chapelizod (who first saw him), states to have been inflamed. There was no purging. He expired in nine hours.

He was sedulously attended by Dr. Maguire, who administered emetics of sulphate of zinc, followed by demulcent fluids. Fragments of the poison, suspended in the latter, were ejected, five or six hours from the commencement of the illness, and were found to be still unmoistened in the centre.

Inspection thirty and a-half Hours after Death. — (Mean temperature, 56° F.) There was a good deal of livor posteriorly; rigor mortis was well marked[a]; abdomen green from putrefaction; a disagreeable odour about the mouth, which was perceptible eighteen hours previously. No interior examination was permitted.

[a] It is laid down by physiological writers that this condition is very transient in young subjects. This statement, viewed as a general rule, requires confirmation.

The sister was *aroused by the noise* which the illness of her brother had created, *two hours* after having swallowed her dose, when her father proceeded to the employment of vigorous measures, consisting of an emetic, followed by repeated albuminous draughts. She had no purging, and was inclined to sleep when permitted; and when thirteen hours had elapsed, I found her cheerful, skin warm, pulse 160, and very weak; tongue coated white, with scattered red papillæ, resembling the tongue of scarlatina; some thirst and occasional green vomiting; urine scanty, and depositing lithate of ammonia. In twenty-four hours, face flushed, eyes rather injected; pulse still very quick; in one day and a-half she had improved; pulse 124, and stronger; urine still scanty. In two days and a-half, restless night, frequent vomiting of green insoluble bile since last visit; pulse 132, but afterwards rose to 160; restlessness; urine less scanty. Four days and a-half:—copious vomiting yesterday, matter ejected green and viscid; bowels freed by injection, with much relief; less thirst; pulse 96, soft; still vomits on drinking; tongue loaded. In six days and a-half, convalescent. Some days afterwards she had quite recovered. None of the matters discharged by the deceased child were preserved for examination. The matters vomited by the girl at intervals, from twelve to thirty-six hours after the poison had been swallowed, afforded no trace of arsenic. None was discoverable in the small quantity of urine passed up to the fourteenth hour; that of from fourteen to thirty-six hours yielded faint and dubious indications; in the secretion passed on the fifth day, none; nor yet in the fæces passed at about thirty-six hours.

Case XIV.—I am indebted to Mr. Read, surgeon to Mercer's Hospital, for the following case:

J. G., aged 33, a servant, and previously healthy, attempted self-destruction on February 16, 1841, by swallowing arsenious acid in tea, with which he had agitated above an ounce of the poison for twenty minutes. No peculiar flavour was at first perceived, but towards the end of the draught

he found it nauseous, but could not positively state that he experienced any special taste. In about five minutes a peculiar tingling sensation commenced in the left arm, which lasted for about three quarters of an hour; this was followed by nausea, vomiting, and headach, which continued till next day, when much thirst was added, with hoarseness, lachrymation, and swelling of the eye-lids. On the fourth day, having almost completely recovered, he again took arsensious acid, to the extent of two tea-spoonfuls, in coffee containing milk and sugar, the mixture having been well stirred. In about half an hour he experienced headach and nausea, followed by vomiting of green bilious matter and ropy mucus, which continued for thirty hours. There were also present cramps, some collapse, constriction of the throat, hoarseness, and burning in the tract of the œsophagus; the last symptom continued till the sixth day. Second day: a line of excoriation on the integument at the external angle of each eye, and desquamation of the cuticle of the eye-lids, with redness of the latter; an eruption of pustules about the angles of the mouth; redness of the fauces, with aphthous ulceration. Third day: cough, with yellowish white expectoration, and bronchitic râles in the chest; difficulty of micturition (without pain); tingling sensation in axillæ (which lasted eight days); heat of skin, and quick pulse. Fifth day, numbness in thighs and calves of legs. Eleventh day: anæsthesia of fingers, and partial paralysis of flexors of forearm; a similar condition shortly afterwards attacked the lower extremities, and was accompanied in both by pain persisting for a few days.

In five weeks from the commencement of the illness the skin of the entire body had desquamated; most remarkably so on the hands. In six weeks the paralytic condition of the flexors of both extremities, which continued unabated, was now accompanied by soreness on pressure. In two months and a-half the patient was still unable to stand without support. In eight months the paralysis of sensation and motion, the soreness on

pressure of the muscles, and the impediment in making water, still continued, although in a less degree. In twenty-three months, *nearly* recovered. Some time subsequently he was quite well.

Chemical Examination.—Six ounces of urine afforded no evidence of arsenic.

The preceding history furnishes an interesting example of the remote effects of arsenic on a large number of organs, and illustrates its influence on the digestive, cutaneous, and nervous systems respectively. The disturbance of the functions of the latter system continued for at least two years. The first dose of the poison, although much larger than the second, not combated, as was the latter, by any remedial measures, and having been retained for three-quarters of an hour, was followed by effects much less severe, extended, and persistent. On neither occasion was there purging.

The paralysis was treated by strychnia, warm baths, and purgatives. The constriction of the throat and hoarseness were much relieved by a moderate blood-letting.

Case XV.—Miss D., aged 18, June 16, 1838, committed suicide by swallowing arsenious acid; dose unknown. The symptoms were, vomiting, constriction of the throat, stupor, and when near death there were dark areolæ around the eyes; there was no purging: death in thirty-two hours. In addition to other measures, the medical attendant administered sulphate of copper, followed by albumen. The contents of the stomach indicated the presence of *arsenite of copper* (Scheele's green) in small quantity, a result of the action of the arsenious acid on the oxide of copper of the albuminate.

Case XVI.—In February, 1848, I was consulted by Dr. Trotter, county Meath, relative to the following occurrence:—five persons partook of a flour cake made with soda; two of these died in from eight to ten hours. The symptoms were, burning in the throat, vomiting, and pain in the abdomen: in two of the cases the symptoms commenced half an hour after

eating; in one (a child of ten) the stomach and intestines were found inflamed; their contents consisted of a thin fluid, intermixed with curd of milk. The cake, soda, and flour, were submitted to me for examination. I found arsenic in the first, the two latter contained none, while there was *soda* also in the cake. It hence appeared that this was not an accidental poisoning. Sufficient evidence, however, could not be obtained to implicate the suspected party[a].

For the following case I am indebted to Dr. Groves, R. N.

Case XVII.—M. B., aged 30, swallowed in gruel and porter nearly a tea-spoonful of arsenic in mistake for ginger. About an hour afterwards she had some vomiting, which soon became green and copious, and produced great pain in the throat and chest, and at midnight she was seized with violent pain in the abdomen, principally in the hypogastric region; burning sensation in the stomach, and hoarseness, succeeded, and sense of constriction in the œsophagus; itching about the eye-lashes; dimness of sight; cold, clammy perspirations; sleeplessness, and sooty taste in the mouth; vertigo; ringing in the ears; tingling in the limbs; paralysis of the legs; sensation as if cold water were poured down the back. For several succeeding nights she had fits resembling epilepsy, except in the absence of frothing at the mouth.

On the fourth day there was epigastric pain on pressure; subsultus tendinum; great thirst; pain in the stomach when she drank; vomiting had ceased; tinnitus aurium and tingling in the limbs disappeared. The case was not further under observation.

On the next case I was consulted by Dr. Reid of Kilkeel.

Case XVIII.—Martha Edmonds was indicted at Downpatrick Summer Assizes, 1840, for the murder of her husband, a pensioner. The latter and a neighbour were attacked with

[a] The necessity of examining all the ingredients of suspected food in criminal cases is well shown in the above instance.

illness shortly after having partaken of punch made by his wife. The husband complained at once (and before any suspicion had been excited) of the "nauseous" taste of the liquor, and said he could not drink it. His neighbour also objected to it on the same grounds. He died in from eight to nine hours afterwards, with vomiting (in part bloody), and pain in the head and belly. The survivor (an adult female) experienced burning of the fauces, vomiting, violent pain in the abdomen, cramps, and incessant thirst. She was six weeks in arriving at perfect recovery, previously to which general desquamation of the cuticle took place. In the deceased, the stomachic contents consisted of three pints of a dark, bloody fluid, in which I detected arsenious acid, in the proportion of three and a half grains to ten ounces. No other parts were sent for examination. A *duck*, to which two table-spoonfuls of the contents were given, was seized on the same evening with paralysis of the legs, and an effort something resembling vomiting. It lived three days, during which time it *cast most of its feathers.*

For the following history, and for an opportunity of inspecting the stomach, I am indebted to Mr. Fox, F. R. C. S.

Case XIX.—Mr. S. M., in consequence of mental depression, committed suicide May, 1843, by swallowing white arsenic. The dose was considerable (nearly an ounce having been found in the stomach). Death took place in about seven hours. Symptoms: vomiting of green matter for the first two and a half hours; subsequently, bilious purging; no thirst, pain of stomach, nor tenderness on pressure; extremities warm; countenance not sunken; pulse weak and slow; occasional sleepiness.

Inspection, sixty-three Hours after Death.—Body quite free from putrefaction; a very peculiar odour on cutting into the abdominal muscles and cavity. Stomach: a good deal of scarlet capilliform injection beneath the peritoneal coat; same in the omenta; mucous membrane of the body and splenic end of a light reddish brown, with some darker patches; a beau-

tiful vivid-red striated vascularity of the pyloric fourth; in the splenic end were numerous erosions of the mucous coat, chiefly rounded, with some streaks of varying size; edges undefined, and destitute of redness or induration; bottom formed by the submucous coat; no trace of black extravasation; mucous coat of splenic end softened (by imbibition of fluid contents); that of pyloric not; little adherent mucus, but many patches of arsenious acid admixed with that secretion were scattered over the surface; a good deal of ramiform injection of the submucous coat, chiefly of the splenic end. Contents of stomach: two pints, faintly acid, and of a dilute brown colour, including much viscid mucus, exhaling a sour and a very peculiar odour, and depositing curdy-looking masses on standing. Arsenious acid was present in solution. Duodenum: lining membrane reddish brown; a few small abrasions. Heart: cavities engorged with blood.

Case XX.—In February, 1843, four persons swallowed arsenic, introduced in mistake for soda into a cake. The latter was said to have a peculiar bitterish and disagreeable taste, in consequence of which two of the parties ate but little. The symptoms produced were vomiting and purging, and pain in micturition. When seen by the late Dr. O. Curran, the pulse was thready, 120–130, and in two somewhat intermittent; their countenances pale, contracted, and anxious, and their extremities cold: in two there were cramps, violent burning in the epigastrium and throat, with constriction in the latter, and *bloody urine*. Emetics, followed by copious draughts of tepid water, were administered; and about an hour after the poisoning the extemporaneously prepared[a] hydrated sesquioxide of iron was given copiously; to some of them the *dry oxide*. Immediate relief was experienced to the pain in the stomach by the use of the former, so much so that the patient called for its

[a] By precipitating the tincture of the muriate of iron by ammonia, and decantation.

repetition, and in half an hour the first-named symptom had disappeared; the *dry oxide* did not produce any material benefit. The fæces of one of the patients passed on the fourth day indicated the presence of arsenic in small quantity, and traces were discovered in the urine on the fourth day.

Case XXI.—Dr. Mason, M.R.C.S., requested my assistance in the following occurrence:

Five persons partook of soup which had been seasoned, by mistake, with oatmeal intended for poisoning rats, and containing arsenic. In about half an hour, one of the parties, a female, was attacked with burning of the throat and pain in the stomach and bowels. This was followed by severe pain in the head and across the eyes, the former of which continued till next day. She was attacked subsequently with bronchitis, which slowly yielded to treatment. Another of the sufferers was seized, almost immediately after taking the soup, with headach, and a feeling of distention in the eyes; in a quarter of an hour, vomiting and burning in the throat. He had subsequently mild conjunctival inflammation and general debility; and finally bronchitis, which readily yielded to treatment. A third person was attacked in half an hour with nausea, followed in two hours and a-half by burning of the throat, severe pain in the head, and scalding of the eyes. She did not vomit till sulphate of zinc had been given. She had subsequently pain in the knees and loins. A girl, who also partook of the soup, vomited *immediately*, and recovered. The treatment consisted in emetics, followed by the hydrated sesquioxide of iron, extemporaneously prepared, from which latter much and immediate relief to the pain in the stomach was experienced.

The facts contained in the foregoing histories furnish matter of practical interest, and might be profitably generalized, did space permit. I shall, however, offer but a few leading reflections. The first circumstance which demands attention is the impression of the poison on the organs of taste, concern-

ing which much difference of opinion exists[a]. Conclusions upon this subject are most valid when drawn from the observation of actual cases of poisoning[b]. These leave no doubt that, while in some few such an impression is made, in the great majority there is none. Thus, of fifty-two cases here referred to, it was absent in thirty-eight, although in several of these the poison was in solution. In five, however, where no suspicion had been previously excited, a disagreeable flavour was experienced[c] in the act of eating the food, which caused two to lay it aside. That such impressions are the result rather of a peculiar susceptibility of the organs of taste in certain persons than indicative of an invariable sensible property of arsenious acid, I am disposed to believe, from the fact, that, in the above cases, some who partook of the same food experienced no such effect. Although, however, there may be no evidence that the poison generally exerts an *immediate* influence, yet a rapid *after impression* (burning) in the throat and tongue[d] is not unusual, and would probably be more frequently observed were it not that the poison is often enveloped in viscid food. Whether or not such an impression may be designated as *taste*, it certainly is not (as some conceive[e]) of the nature of inflammation, when it presents itself (as sometimes occurs) in the course of a few minutes, or in those instances in which it has arisen without the poison having been swallowed[f].

[a] See the conflicting opinions of Orfila (Toxicologie Générale) and Christison (On Poisons). The question of the taste of arsenic was mooted in the affair of the Abbé Gothland, which still creates such a sensation in France.

[b] I must confess that the experiments which have of late years been resorted to for settling this point do not appear to me satisfactory, as few are willing to risk the application of a sufficient quantity to the tongue to furnish a trustworthy result.

[c] Designated by the respective parties as "nauseous," "bad," "queer," "bitter and nasty."

[d] As in the case of some vegetable acids.

[e] Christison, *op. cit.*, fourth edition, p. 254.

[f] In Case xx., the medical attendant tasted the poisoned tea (three grains

The salivation occasionally noticed (two cases) is, doubtless, similar to the spurious form which takes place, when a strong impression is made by any poison on the lining membrane of the mouth and throat. In a few of the foregoing instances vomiting occurred almost immediately. The mean interval which elapsed, previously to the latter taking place, was thirty-two minutes, the longest, six hours. In the latter case headach supervened in an hour. This symptom, with giddiness, is often amongst the earliest indications, and frequently precedes vomiting for a considerable time. The mean duration of twenty-two fatal cases was fifty-seven hours and a half; the shortest, five hours and a-half.

The symptoms[a], it will be perceived, were various, both as to their nature and mode of combination, more especially the latter. Good illustrations are afforded of the two commonest forms of arsenical poisoning; the one, in which the mucous and cutaneous surfaces are chiefly involved, and the other where the phenomena, having been in the first instance of this nature, are succeeded by disturbance of the nervous functions, chiefly of the spinal cord, as indicated by paraplegic affections more or less intense, and sometimes long persistent. In none was there an example of that rarer and rapidly fatal form, in which the powers of the heart and sensorium are prostrated by the influence of the poison, and in which the primæ viæ are often uninfluenced. It deserves notice, in a medico-legal point of view, that in two cases (severe, and subsequently fatal) the patients retained sufficient

to the ounce) but *without swallowing any.* "He perceived nothing at first, but afterwards felt burning in his throat." The same occurred also in a Welsh case.

[a] Of individual symptoms, vomiting was the only invariable one. Of sixty cases, there was purging in sixteen; in fourteen, thirst; in eleven, pain in the belly; in eight, burning in the throat, headach, and collapse; in six, cutaneous eruptions; in five, epigastric tenderness, injection of the conjunctivæ, and desquamation of the cuticle; in three, cough, fainting, sleepiness, and painful micturition; in one, priapism.

strength (in one) to leave the house, and (in the other) in addition, to engage more than once in the transaction of business. In one case (the patient having slept subsequently to the dose), no symptoms presented themselves after the lapse of two hours, when vomiting was produced and repeated under the influence of emetics only. Whether this was owing to the influence of sleep, or to the envelopment of the poison in food, would be difficult to determine.

I shall not advert to the subject of treatment, further than to draw attention to the relief which followed, in eight instances, from the recently prepared hydrated sesquioxide of iron[a], while that from the oxide was but trifling. This remedy should not, of course, be allowed to supersede an efficient evacuation of the stomach, and will necessarily fail in many cases, either from the interval which may have elapsed having permitted the absorption of a fatal dose of the poison, or from the common and obstinate adhesion of the latter to the mucous surface. The oxide should be prepared by precipitation with *ammonia*, as that thrown down by potash is less efficacious. The morbid alterations observed in the several instances narrated are deserving of attention; but, having already given a general survey of them on another occasion[b], I shall notice them but briefly here. The only one which can be considered as exclusively the result of its local action on the mucous surface of the stomach is characterized by great and fungous thickening, in patches or ridges, with adherent arsenic, or, rarely, coriaceous lymph. (Case xii.). The other changes,

[a] According to Wittstein, the hydrated peroxide loses its efficacy by being kept under water, owing to its acquiring a crystalline condition. This seems opposed to the observation of Bunsen, who found that hydrated oxide of iron, which had been discovered enclosed in a cavity of a mass of travertine, retained its antidotal virtues intact. Should further experience support the view of Wittstein, the oxide may be readily prepared extemporaneously by the action of ammonia on muriated tincture of iron and decantation.

[b] Medical Press, April 17, 1850.

equally producible by its remote influence consequent on absorption, are injection of the various forms (chiefly punctated) with petechial blotches. It is doubtful whether the black extravasation (which ends in erosion) may also result from the remote influence of arsenic; if not, it seems to arise from the general excitement of the mucous surface, and not from the lodgment of masses at the particular points affected, as *fluid* irritants produce the same result.

In no case was there true ulceration of the stomach or intestines. I have known the latter lesion to occur, in a marked degree, in the great intestines, where arsenic was applied externally. I have also found ulcers on the interior of the cheek, in arsenical poisoning of four and a-half days' duration.

The lungs, it will be seen, were, in many cases, much engorged, and the bronchial mucous membrane inflamed. The heart, in a few, exhibited petechial ecchymosis on the endocardium, &c. The condition of the blood was variable; while often fluid and dark in the great veins (as is common in other forms of death), it was sometimes coagulated in the heart[a] and great arteries. In one instance, though fluid in the vessels (ten hours after death), it coagulated on being withdrawn.

The influence of arsenic, in retarding or modifying decay of the body, has long attracted attention, and has been strikingly displayed in many late exhumations.

Where there has been an opportunity of inspecting the entire body in the foregoing cases, the following conditions have been noted:

1. Complete preservation of the whole, during periods of observation of nearly three days, under circumstances favourable to decomposition.

2. Rapid putrefaction of the entire, during cool weather.

[a] And sometimes fluid in one cavity while coagulated in another.

3. Preservation of the stomach and intestines, the body decaying as usual[a].

4. Rapid decomposition of the alimentary canal, the body remaining unaffected[b].

Where the *digestive tube* only was under observation, I have obtained the following results:

(*a*). Almost complete preservation of the stomach (apart from its contents) during four weeks, followed by modified decay during eight; subsequent ammoniacal and ordinary putrefaction, and finally drying of the tissue, with extrication of arseniuretted hydrogen.

(*b*). Rancid putrefaction.

This term I venture to apply to a singular condition, characterized by a very peculiar odour (like that of fatty substances undergoing slow decomposition), and by a strong and persistent acid reaction[c]. The tissues so affected retain their consistence for a long period, but finally become softened and discoloured in their aspect.

The *modus operandi* of the poison, in the exercise of its antiseptic powers, has not been hitherto satisfactorily explained.

That arsenious acid enters into direct combination with animal proximate principles, there is no reason to doubt; and that such union, *per se*, is adequate to effect this preservation, is probable from the analogous case of the metallic compounds of albumen; hence, most likely, the complete preservation of the *stomachic contents* for an indefinite period, which I have

[a] This was observed in Case I., at forty-six and seventy-four days after death.

[b] Case of Miss P. The intestines were in an advanced state of putrefaction thirty-four hours after death.

[c] An arsenical stomach in my possession has retained this condition undiminished for more than four years; I have also noticed it in a liver which, having been long dried, resumed this form of decay on being remoistened.

sometimes noticed (Case vi.). The arsenic deposited by the blood in the organs of the body I have also found (in the case of the liver) to enter into combination with the tissue (see chemical examination of Case iii.), and such union has been even viewed by some modern chemists, who assume a summary and exclusive jurisdiction in the domain of physiology, as the cause of its noxious action; an assumption which, independently of other considerations that might be offered, is sufficiently refuted by the fact, that some of the organs that suffer *most* receive the *smallest* amount of the poison, and that the quantity, in any instance, is utterly insufficient to combine with such a portion of the tissue, as consequently to arrest or materially disturb the functions of the organ. Reflection on the results at which I have arrived in the examination of the different organs, satisfies me, that the preservative action of arsenic is often to be referred, rather to a catalytic or disposing influence, in virtue of which such changes are produced, either in the molecular condition of the textures, or in the grouping of their chemical atoms, as suffices to impress upon them a new and more stable character. Dr. Christison[a] appears to view this as the probable explanation of the phenomenon, as it regards the body generally, exclusive of the alimentary canal.

I am disposed, however, to give this view a more general application, from the significant fact (noticed, I believe for the first time, in this paper), that the preservative influence is sometimes visible, where the tissue (*e. g.* of the stomach or intestine) *has excreted the entire of its arsenic.* (Case i.) It would hence appear that, the disposing influence having been once exerted, the preservation of the tissue is maintained, irrespective of the subsequent retention or expulsion of the poison[b].

On the other hand, where, from the influence of the poison

[a] *Op. cit.* p. 358.

[b] Thus, while in Case i. it was expelled, in Case v. it was retained in the tissue of the stomach.

on the blood during life, or from other obscure causes, a tendency to decomposition is induced, the presence of absorbed arsenic in the tissue will not prevent the latter. Thus in Case II., although all the organs putrefied with great rapidity in cool weather, I detected arsenic in one of them[a] in full quantity. It was absent in other parts not more decomposed. In some instances, the tendency to decay thus induced is less energetic, and attacks only those organs which, from their structure, are ordinarily more obnoxious to decomposition, as the alimentary canal.

The distribution and elimination of the poison are practically deserving of notice. The blood deposits that which it has received, with comparative rapidity[b]. The amount, however, allocated to the different organs differs materially. The liver (or perhaps the kidney) receives most, in proportion to its mass; next, probably, the muscular tissue; lastly, the structure of the lung, and other parts. The quantity and constancy of deposition in the osseous system has yet to be determined. I could not discover a trace in the *skin*, *subcutaneous areolar membrane*, *or fat*, in a case fatal in seven hours, although freely indicated in the muscular tissue and liver. Whether this obtains as a general rule must be decided by future experience. Should it prove to be so, the frequency of cutaneous affections in arsenical poisoning will suggest the interesting inquiry whether the disturbance of the functions of a special organ can be produced without the transit of any poison through its structure, or whether such transit, if it take place, is necessarily followed by deposition. The interval, after which an appreciable deposit takes place in the tissues, probably va-

[a] The liver.

[b] In a case of poisoning by acetate of lead, in which the poison had been re-administered twelve hours before death, I was unable to find a trace of the latter in the blood of the heart, although the tissue of the organ gave indications. In Case IV., fatal in nine hours, arsenic was detected in the blood, while in another, fatal in seventeen to twenty hours, none was discovered; the quantity, however, examined in the latter case, was small.

ries[a]. Thus, while in one instance, fatal in nine hours, no satisfactory evidence of arsenic could be obtained in the muscular structure, I discovered it without difficulty in that of another, after an illness of seven hours, in the proportion of one-thirteenth of a grain to the pound.

I shall next proceed to state the results of several careful investigations which I have lately instituted in reference to the *amount* discoverable at various dates in the liver[b]. I must premise, that in an experiment by the method of Reinsch, on a pure solution of arsenic, conducted with great precaution to avoid loss, I could recover by gradual, full, and continued heating of the copper foil, only *three-fifths* of the arsenious acid employed. Hence, although the *whole* arsenic is *precipitated*, little more than *half* is *ultimately obtained.*

Estimating the average weight of the liver to be three and a-half pounds, I obtained for the entire organ the following quantities at the respective periods undernamed:

Obtained.		Total Arsenic deposited in Liver.
5½ to 7 hours,	0·5 gr. (Hence 3 : 5 : : 0·5 : 0·8)	= 0·8 gr.
8¾ ,,	0·7 ,,	= 1·2 ,,
15 ,,	1·2 ,,	= 2·0 ,,
17 to 20 ,,	0·8 ,,	= 1·3 ,,
10½ days	0·9 ,,	= 1·5 ,,
14 ,,	0·1 ,, (q. p.)	= 0·17 ,,

If these quantitative results should prove uniform (which seems improbable), the maximum amount of deposition will

[a] The question as to the amount deposited in this organ, after a given interval, became of considerable moment in the important case of Ann Merritt, owing to the speculative opinion of a medical witness, commented on by Mr. Bright, M. P., during the debate in the House of Commons on the abolition of the punishment of death. See Medical Gazette, August 16, 1850.

[b] The portion to be examined was first carbonized, in a close vessel with a receiver, by pure sulphuric acid, as I find that mere boiling with muriatic acid does not extract the whole of the arsenic; Fresenius' chlorine method is a good one, but tedious. I think it probable that, where Reinsch's plan has been followed, the whole arsenic deposited on the copper might be obtained by momentary immersion in strong pure nitric acid; the solution, on evapo-

have been attained in fifteen hours. Further researches are, however, necessary. Various considerations, and especially the rapid disappearance of poisons from the blood, lead to the inference that the deposition of these agents in the various secreting organs, and in the muscular and other tissues, so far from being the cause of their formidable remote effects, is rather to be viewed as a beautiful provision for their allocation to parts where their presence is productive of least danger.

The liver is probably[a] the organ in which the poison is discoverable after the longest interval. The period at which elimination is complete is doubtless variable; thus, in an observation by my friend, Dr. Taylor[b], the liver had evacuated its arsenic after a seven days' illness. I found the poison in the same organ, in cases which had survived respective periods of ten and a half, eleven and a half, and fourteen days (in the two latter in small quantity). In the last-named period it could not be discovered in the tissues of the intestinal canal, kidneys, lung, &c. It would appear, therefore, either that these organs precede the liver in expelling their contained arsenic, or, if the act be simultaneous in all, they have earlier ceased to evince its presence, owing to their having originally received less. If the view of simultaneous excretion be adopted, it will be necessary to assume, in some cases, that there occurs, moreover, a transference of the absorbed poison from *other organs* to the *liver*, in order to account for its existence in the latter, in nearly full quantity, so late as the fourteenth day[c].

ration, being converted into sulphate of copper and arsenic acid, the oxide of copper then removed by boiling potass, and the filtered solution deoxidized by sulphurous acid, and finally precipitated by sulphuretted hydrogen.

[a] What the relation of the muscular tissue may be to the latter organ has yet to be determined. In the case fatal on the fourteenth day (where arsenic existed in the liver) I had reserved some muscular structure, which was, however, unfortunately lost.

[b] Guy's Hospital Reports, vol. vii. p. 14.

[c] This is, I believe, the longest period of illness after which *absorbed* arsenic has been discovered. I exclude the case given by Bonjean, in which

The leading channel for the escape of poison (so far as our present knowledge extends) is the urine. In Case xiii. I examined this secretion at intervals from the fourteenth hour to the fifth day, and but *once* detected indistinct traces of arsenic. This probably arose from the minute quantity absorbed, which was still sufficient (in conjunction, perhaps, with the effect of continued evacuation of the stomach) to produce gastritic symptoms. In another case no trace could be had in six ounces of the urine, passed on the sixth day.

The detection of absorbed arsenic in the various organs has raised an important inquiry, which has lately been revived by Dr. Kidd of this city, in his interesting communication on imputed poisoning[a]. Dr. Kidd has shown that where there has been an injection of arsenious acid in solution into the stomach after death, the poison may be discovered some time afterwards in the adjacent viscera, and even in the muscular tissue of the fore-legs. Without denying the probability of cadaveric imbibition by neighbouring organs in the human subject, I must observe, that it is not likely to take place to such an amount as to present material difficulty in medico-legal inquiries. For, in Dr. Kidd's experiments it may be noticed, that the quantity of the poison (introduced also in solution) was very large in proportion to the size of the animals, and the time allowed for exosmosis considerable. I conceive that the difficulty may in general be satisfactorily eluded by a *comparative quantitative* examination of the poison in the interior and exterior of the impregnated organs, or of that in near and distant parts; the amount discoverable will, in post mortem imbibition, be much

a single dose of three-fourths of a grain of arseniate of soda was discovered a month afterwards in the urine, and hence, if the statement be correct, must have existed in some of the organs up to that period!

[a] Dublin Quarterly Journal of Medical Science, August, 1850. This paper was drawn up in especial reference to the case of Mr. Bleasby, Armagh, where a post mortem introduction of the poison was suspected.

greater than in vital absorption[a]; and lastly, a careful consideration of the symptoms and morbid changes, will complete the distinction. These circumstances will require the closest attention where a considerable interval has elapsed previously to exhumation.

With regard to the detection of poison in the primæ viæ, it is interesting to notice its discovery in the fæces on the fifth day in one case, and in the contents of the colon on the twelfth day, in another. I have found that, where the quantity of arsenic is very small, and combined with a large amount of animal matter, carbonization by sulphuric acid is an indispensable preliminary. I indulge the hope that the reflections now offered may lead to further researches on the various questions in the medico-legal history of arsenic which still demand elucidation. Should this result be obtained, I trust that the facts embodied in the present communication may furnish some assistance.

[a] This is evident from the statement of Dr. Kidd, that "the quantity of arsenic in each instance was *too great* to admit of any doubt as to the source from whence it came."

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

Operative Surgery. By Frederic C. Skey, F. R. S. London: Churchill. 1850. 8vo. pp. 709.

If we estimate the different departments of our professional art by the amount of benefit which each is capable of affording to suffering humanity, we must unhesitatingly award to the operative branch of surgery the palm of superiority. The physician may achieve much in acute disease; by wielding with skill the various heroic remedies at his command, he is often enabled to anticipate the effects of inflammation, and thus rescue a vital organ from destruction. The surgeon also may check the progress of gangrene, promote healing in the soft parts, accomplish the union of bone, restore to joints their former motions, &c., &c.; but in these instances we must recollect that nature chiefly plays the game, and that in some cases cures would take place without the aid of art: in fact, so true is the latter observation as regards pure medical disease, that he is often the wisest practitioner whose treatment is expectant, or whose object it is to watch and assist, not to interfere with the "vis medicatrix naturæ." Widely different is operative surgery, being, so to say, a purely mechanical art. Its principles are definite, its results conspicuous and conclusive, and its benefits palpably manifest. In illustration of these remarks we need only refer to the application of the ligature to a wounded artery,—by which hemorrhage is suddenly arrested, and life saved, to the operation for strangulated hernia, the extraction of a stone from the bladder, to amputation in irremediable compound fractures and dislocations, not to speak of the advantages derivable from the extirpation of adventitious growths and the redress of disgusting deformities: all these are so manifestly capable of bestowing substantial good upon mankind, that to

enter into any argument to establish our position would be to suppose that its truth could for a moment be questioned.

While, however, the knife is a powerful weapon for good, we should never forget that it may be made the instrument for greater evil; and we should recollect that it is in reality our ignorance and the contracted sphere of our therapeutic resources which oblige us so frequently to have recourse to its use. Formerly, in the practice of surgery, the knife was resorted to on almost every occasion, but as the light of science began to beam more vividly, it awakened in the mind of surgeons a love of research, so that the steel became less and less regarded; and now the great object with all is to carry forward the meritorious work of superseding, as far as possible, the employment of the knife, and in no instance has this been so successfully accomplished as in the recent mode of treating aneurism by compression.

And now, as we have alluded to this subject, we cannot refrain from passing our severest censure on Mr. Skey, for the superficial and imperfect manner in which he disposes of this operative proceeding, and for the ignorance he exhibits in the few observations he makes upon it. Had the Dublin surgeons been remiss in publishing the result of cases treated by this mode,—had not the pages of our Journals, both weekly and quarterly, teemed with reports upon this most important addition to the practice of surgery,—and had not the principles upon which the cure is thereby effected been clearly demonstrated, and a description of the principal mechanical appliances employed for compressing the artery been given in publications accessible to every one,—some excuse might be allowed for the author's omissions and ignorance; but as no such palliating circumstances can be pleaded in excuse by Mr. Skey, we cannot withhold the expression of our disapprobation. If his book be designed for the student, then, without a proper description of what, without any assumption, we may assert to be the greatest improvement in modern surgery, its instructiveness is but partial; and if it be intended for the use of the practitioner, then, as a book of reference, it is incomplete. We entertain the highest respect for Mr. Skey's surgical acquirements, which makes us feel the more surprised that he should display such want of information upon a subject in surgery, the principles of which are now clearly established, and the advantages of which are so important. We fear his mind has been somewhat tainted with the contagion which has localized itself in the northern metropolis of Great Britain; and that the *anti-pressure* cry, so loudly vociferated there by one of the ablest surgeons of the day, has found

an echo in him. It is true that Mr. Skey does not, with Mr. Syme, condemn the new plan as dangerous and improper, nor does he, with egotistical complacency, assert that none would adopt it but those whose want of manual dexterity deters them from employing the knife; yet in the few observations the author makes, he evidences a decided leaning towards the operation by ligature, and speaks of dangers connected with the treatment by pressure which experience does not warrant us in expecting.

It is well for the march of improvement that there are not many Symes in the world. A man of high celebrity as a practitioner, of extensive professional information, and of general talent, is, for two reasons, the most dangerous individual to espouse any particular opinion or doctrine: first, because if, from feelings of personal vanity or other motives, he becomes blinded, his very ability enables him to adhere to his own sentiments with persevering tenacity; and secondly, because he is likely to influence a large majority of those persons who have been in the habit of looking up to him for instruction and advice. How men possessing enlightened minds can be so mentally perverse in some instances as to close their reasoning faculties against demonstrative proof is to us incredible. This is not the time or place to enter into any advocacy of the claims which the treatment of aneurism by compression possesses for the adoption of surgeons, nor to advance arguments to prove its superiority over the ligature as a method of cure for more general adoption: the subject has been frequently ably discussed, and the merits and advantages of the plan clearly pointed out. However, for the benefit of those ignorant of the subject, we will present a few observations in the form of propositions.

First. In most cases a cure will be accomplished by compression before the arrival of the period at which a ligature would be separated from the femoral artery; and in some instances, peculiarly favourable, the first step to cure has taken place in a few hours; these are the cases in which the sac of the aneurism is well circumscribed, the heart sound, and the circulation tranquil.

Second. In compression there is no risk from any of those evil consequences which may result from the slightest cut, such as erysipelas, diffuse inflammation, tetanus, &c.; not to mention the dangers of the operation with the ligature, when performed unskilfully, and the risk of secondary hemorrhage and gangrene.

Third. Pressure can be tried where the application of the ligature would be quite inadmissible.

Fourth. By comparing the statistical accounts of both methods, the recoveries under the operation by compression have been found so vastly more numerous than those where the ligature has been employed, that we are only justified in retaining the latter plan as a *dernier ressort* in the few cases that compression may fail in effecting the desired end.

We might add a number of other facts and arguments in favour of compression, but if the foregoing be insufficient to establish for it a preference over the old plan of treatment, and to convince the sceptical, no multiplication of them could accomplish that desirable purpose.

As a work upon operative surgery, the volume of Mr. Skey is, perhaps, on the whole, not a bad one; it is difficult to write ably upon the subject, for the field it embraces is wide and extensive, and we must therefore make allowances for many faults; still we think that a surgeon with such extensive opportunities as Mr. Skey has enjoyed for so many years, might have furnished the profession with a fuller and more complete book. Quite independently of the treatment of aneurism by compression, there are many subjects of great practical importance in Mr. Skey's book too superficially dealt with, subjects such as a surgeon with extensive hospital opportunities, and who is possessed of acute powers of observation, can alone treat in a useful and improving manner.

The first chapter is devoted to the elementary details which form the introduction to all books on operative surgery, and, as far as they go, are instructive to the student. At the end of this chapter the author makes some remarks upon tetanus, as the consequence of wounds; and we cannot but think that, in his efforts to give as concise a description of the disease as possible, he has rendered his observations worse than useless. Better would it have been, where space was not sufficient, if he had contented himself with merely mentioning the name of the disease, or giving a definition of it; for the extreme conciseness with which he condenses his account of the symptoms of so complex a disease as tetanus, renders his remarks, we might almost say, ridiculous. Speaking of this disease he makes the following statement:—"Occasionally we find strange and unaccountable remissions of the symptoms, and patients have been known to rise up from bed, believing the disease to have left them." Surely he cannot here refer to the acute form of the disease in which the symptoms advance rapidly, the intervals diminishing *pari passu*, and should there be any decided remission, it is invariably to be received as the prelude to death. It is Mr. Skey's opinion, that opium in large doses is the best

treatment; for our part, however, we never found any advantage to arise from that drug, and there is a theoretical objection to its use, which, though insufficient to overturn altogether its claims to be a fit agent for administration in the disease, tend to weaken them not a little. We have seen the prominent tetanic symptoms more effectually influenced by the tincture of the Indian hemp, and the contemporaneous use of the vapour bath, than by any other plan of treatment. Mr. Skey considers that, where death is certain in tetanus, homicide is justifiable, and the weapon of destruction he would employ is chloroform. He says, speaking of a case in which he used that potent remedy—" his death was now certain, and I resolved he should die under chloroform"!! In justice to the author we admit that this strange phrase permits the inference that the agent was administered with the view of only smoothing the ruggedness of the path to the grave, but if we couple it with a remark he passes upon the exhibition of opium—" better that the patient die under opium than under tetanus,"—it receives a signification not unlike the meaning we are inclined to draw from it. We have administered chloroform in tetanus with marked temporary relief, but not with any apparent permanent advantage; and we consider that, if the dysphagia be not too great, the good effects of the agent would be better procured by giving it internally than by the inhalation of the vapour. Mr. Skey signifies his intention to apply, in the next case he meets with, the actual cautery to the spine, while the patient is under the influence of chloroform. Now, independently of the fact that any application to the spine is of very dubious benefit, since there is no appreciable lesion of the spinal cord essential to tetanus, deep indeed must be the anæsthetic slumber that would not be dispelled by the first or second touch of a red hot iron, where there exists a most peculiarly excitable condition of the system. We have experimented in a case of tetanus, while the patient was under the influence of chloroform, and we found that the only means of insuring its effect, even for a few moments, was by keeping the patient perfectly still, and free from the slightest impression; for the instant he was touched on any part of the body, or even the bed stirred, the anæsthetic condition immediately ceased, and the paroxysms returned as before.

The next chapter treats of dislocations. Amongst his general observations Mr. Skey remarks:

" It is desirable that an attempt to reduce a dislocated bone be made as early as possible. The difficulty increases daily, by reason of the increasing inorganic contraction of the muscles engaged, and

after the expiration of some weeks, by the new fibrous adhesions, which the dislocated bone acquires. But this difficulty should not be overcharged. It does appear probable, that an attempt at reduction immediately consequent on a dislocation, takes the muscles by surprise, and the object is attained with a facility that does not reward, with equal success, the same means employed even a few hours afterwards. But supposing this rare opportunity lost, I am doubtful whether the difficulty increases in any positive degree, day by day, for some time. I do not deny that the passive contraction of the muscles demands an increasing force of extension, by the mechanical agents employed, but I consider the progress of this difficulty to be so slow, as not to present any serious obstacle to the elongation of the limb by pulleys, or by similar agents, even though many days, or even weeks, have expired, since the occurrence of the accident."

The foregoing remarks are to be received with some caution; the expression, "even though many days or even weeks," is rather startling, and is likely to mislead the junior reader into the belief that if the first period after the occurrence of the injury have passed by, no harm can arise by delaying attempts at reduction for a considerable time, an opinion which is certainly not warranted by the results of experience.

Of the different modes of reducing dislocation into the axilla, Mr. Skey considers that by means of the heel in the axilla to be the most efficient; and when it is necessary to employ pulleys, he uses a pad which lies in the axilla and answers the purpose of the heel; it consists of "a well-padded iron knob, from which there extend laterally two strong, straight branches of the same metal, each ending in a bulb or ring of about four inches in length."

In the description of dislocation of the hip the author remarks:

"I have seen repeated examples of the following varieties—upwards, on the dorsum ilii, varying in distance from the socket from one to three inches; backwards in the ischiatic notch, on a level with the socket, and an inch above its centre; on the dorsum acetabuli, both backwards, and upwards and backwards; inwards and slightly downwards over the obturator foramen; yet further inwards on the ramus of the os pubis; inwards, and slightly upwards on the body of the os pubis, below the spine and transverse part of the bone; and straight upwards, nearly in front of the articulation.

"Many of these are, doubtless, mere modifications of the division propounded by Sir Astley Cooper, and for all practical purposes that division may still prevail; yet it is obvious, by the most cursory glance at the bones, that the relation of the two extremities to each other, the degree of inversion, and the extent of retraction of the

limb, must vary according to the position of the bone, and qualify, in no slight degree, the generally adopted opinions of the profession of the nature of the injury. Sir A. Cooper lays it down as a rule, that in dislocation of the head of the femur on the dorsum ilii, the foot of the dislocated side is thrown on the opposite instep. Now if, on examining a case, a surgeon of limited experience finds this relation of the extremities absent, if he be told to expect inversion of the limb to a certain extent, and there is little or no inversion, he may, not unreasonably, conclude that he has mistaken its entire nature. The fault would then justly attach to the writer, and not to the surgeon."

Next in order follow some concise observations on fractures. We consider that, in works on operative surgery, it would be better to omit all notice of subjects like these, for justice cannot be done to them, and they only increase the size of the book unnecessarily: this portion of Mr. Skey's volume is both superficial and imperfect.

We have now arrived at the portion of the work in which aneurism is treated of. We have already, from a feeling of duty, found it necessary to express our disapprobation of the author's description of the treatment of aneurism by compression; and now, as we again cast our eyes over the few pages dedicated to its consideration, we discover the grossest ignorance about the common appliances used for the purpose of compressing the artery. He says "the instrument employed should be a tourniquet," and of this machine he gives a diagram in another part of the book. There is no mention made of the pelvic apparatus with the ball and socket adjustment, the pad of which bears perpendicularly upon the artery just as it crosses the bone, where pressure can be best effected and longest maintained; nor of the other description of clamps now used for the lower part of the artery. We have seen the apparatus termed "tourniquet" by the author occasionally employed, where it was necessary to alternate the pressure at various points; but it is of use only in compressing the vessel as it turns round the femur, and cannot be borne for any lengthened period, in consequence of the degree of pressure it is requisite to exercise at this part. If the "tourniquet" be the only apparatus with which our author is provided, he might be long enough before he could accomplish a cure in aneurism; probably it is ignorance of the proper appliances and their mode of application which has often caused the failures which are reported to have occurred in England. In fact the main instrument for effecting the cure is the pelvic ball and socket machine, which has been so much improved by the addition of the vulcanized India-

rubber springs, for which ingenious contrivance we are indebted to Mr. Carte of this city. Mr. Skey winds up his observations by the following very qualified remark:

"But notwithstanding the occasional objections attendant on the application of pressure, as the agent of cure in the treatment of aneurism, a sufficient amount of success has already attended the experiments that have been tried, to warrant the hope of a useful, if not a brilliant career for this remedy, when additional experience has divested it of its objections.

Now this may be required in England: there "additional experience" may be needed; but in this country, where, for the last five years and upwards, almost every case of popliteal aneurism has been treated by means of compression, we have acquired an amount of practical knowledge upon the subject which demands "additional experience" to improve it no more than does almost any other plan of treatment with which we are acquainted; and we give utterance but to a simple truism when we state that a "brilliant career" is not merely in perspective for this great improvement: such has already attended its adoption in Ireland.

There is, perhaps, no subject in operative surgery upon which surgeons are so much divided in opinion as upon the relative superiority of the two methods of amputation, the circular and the flap. The prejudice against the flap operation seems of late to have considerably abated; still many—perhaps most—of the experienced surgeons, at least, in this country, those by whose opinions we would most willingly be led, give a preference to the circular operation, and invariably adopt it. Mr. Skey also appears to prefer the circular method. "My own experience," he says, in speaking of the flap operation, "would lead me to doubt the expediency of this form, if we take into consideration all the circumstances incidental to the case." He further remarks that, notwithstanding the cushion-like texture of muscle, it is ill adapted as a covering for the extremity of a stump. Though perhaps rather partisans as regards the circular operation, we cannot exactly subscribe to the last observation. What better covering can be had for the extremity of a bone than a soft, thick pad, formed of muscle; and is it not our object, in the circular operation, to bury as much as possible of the bone in the muscle, so that its extremity should not be completely covered and surrounded with integuments only? It is true that in flap cases the bone, after some time, from the absorption of the muscular fibre, comes to lie close to the skin, and thus eventually the stumps formed by

both modes of amputation are circumstanced in the same manner; but it will be generally found that after the flap operation, a much thicker bursa intervenes between the extremity of the bone and the integument than is the case after the circular; besides in the former there is usually a thick circular pad of muscle formed around the bone, which tends to bear off pressure from it when the weight of the body is thrown upon the face of the stump. No doubt, if the flap operation be badly performed, a conical stump will, in process of time, be the result; but, on the other hand, unless the circular be particularly well executed, the bone buried as much as possible in the bed of muscle which surrounds it, and care taken not to turn up too deep a flap of integument, the stump will to a certainty become conical, and the skin covering the bone will be apt to inflame and grow attenuated, in which case it becomes adherent to the bone; there is consequently no bursa, so that when the patient comes to bear on the extremity of the stump, the cicatrix is likely to ulcerate. Notwithstanding the disadvantages of the circular operation, we consider it, as a general rule, to be preferable to the flap; not, however, on the ground that muscular fibre is a bad covering for the extremity of the bone, but because of the advantages which the former possesses over the latter in other respects:

"In the circular operation, the integuments and muscles are cut through vertically to the plane of the limb. Arteries, veins, and nerves share the common lot; all are divided directly across. The wound in the muscles is exactly equal to their transverse breadth. The larger arteries are tied; the lesser arteries retract within their sheaths and cease to bleed. The integuments are brought over the cut extremities of the muscles, and unite to them and to each other by adhesion."

The description of the various special amputations is rendered very useful by the accuracy of the accompanying woodcuts.

Of all amputations in the body, or, as Mr. Skey calls them, excisions, there is not one so highly important as that of the lower jaw; and in a work professing to teach operative surgery we might expect an accurate and clearly detailed account of the different steps which conduct it. Hear, however, the extent of our author's communication upon this subject:

"The patient should be placed in a high-backed chair, with the head well supported by an assistant. Supposing it intended to remove the body of the bone to the angle, a firm incision should be made along the line of its basis to the above extent. This incision

will necessarily divide the facial artery, which will bleed freely, and should be immediately tied. The knife should then be passed upwards into the mouth, separating the cheek along the same line from the gum, the point being guided within, by the fingers of the left hand. When the outer surface of the bone is clear, the knife should be again introduced near the symphysis, *inside* the bone, aided by the fingers employed in depressing the tongue and sublingual gland, to protect them from the knife, and should divide the muscles attached to its inner surface, but chiefly the mylo-hyoid. The attachment of the geni-hyoid muscles to the symphysis may render their division unnecessary. The division of the symphysis will require the application of the saw, and may be completed by the forceps. The masseter muscle is to be raised from its insertion into the angle, and the bone cut asunder as before. The operation is a simple one, may be performed in a short space of time, and leaves little deformity, or other evidence of its extent.

If a student could learn anything from this description, or a person who never witnessed the operation draw the smallest idea of its principles from it, he must, indeed, be more gifted with imaginative powers than the generality of his compeers.

We shall now pass over a number of subjects which the author treats in rather a cursory manner, such as the extirpation of encysted tumours, rhinoplastic operations about the face, paracentesis thoracis, tracheotomy, &c., and we then come to, perhaps, the most important subject in operative surgery, hernia. Mr. Skey makes the following just remarks:

"If we divide an operation for strangulated hernia into three distinct stages, and give to the first of these, the dissection requisite to expose the seat of stricture; to the second, the division of the stricture itself; and to the third, the replacement of the intestine, or other part protruded, it must be acknowledged that we owe to anatomy nearly all the information by which we are enabled to remove the greatest difficulty in our path, with safety to our patient."

He also truly observes:

"*A hernia is always the cause of its own strangulation*, unless the aperture by which it escapes from the abdomen consists of muscular fibres so arranged as to be able to contract around it. In the case of diaphragmatic hernia, these two causes operate conjointly, but in all ordinary forms of this disease the ring is passive and not active in its relation to the proximate cause, and neither in the inguinal, femoral, or umbilical forms of hernia do we find muscular action otherwise than very remotely concerned in the causes of strangulation. In the disease known under the name of hernia cerebri, the ring is bony, and here strangulation occurs on a like principle, viz., the same swelling of the protruded parts that can alone explain the nature of abdominal strangulation. Indeed we find no muscular

fibres competent to contract on the ring, in either of the three localities in which hernia ordinarily occurs. And the occurrence of ventral hernia, in which the contents escape through an aperture formed in the abdominal muscles themselves, is hardly an exception to this law, because there is usually a deficiency of muscular fibres at the part to which the existence of hernia may be referred. If we could imagine a portion of intestine to escape through an opening, involving each of the three layers of these muscles, and exercising an active contraction on the protrusion, we should have a condition of parts essentially different from that which commonly attends the disease, when occurring in the ordinary situations. In truth, this antiquated doctrine, which has too long for the welfare of humanity, referred the cause of strangulated hernia to spasm of the muscles, is almost exploded, and with it the numerous class of supposed remedies attendant in its train."

He thus condemns strongly the principle of procrastinating the operation in strangulated hernia, as was formerly done, while useless remedies were being employed. In describing the steps of the operation he says:

"Care should always be taken that the contents of the intestine pass with the intestine itself, otherwise we are subject to an accumulation of the intestinal contents towards the end, and the return of the last few inches is rendered extremely difficult. When, in operating for hernia, the large intestine is involved, it is better to puncture the intestine by means of a fine needle, and let out the contents, than to make rough or protracted efforts to replace it. I have frequently done this with advantage."

After a few observations upon some minor operations, those for phymosis, hydrocele, hematocele, castration, and catheterization, the author leads us to the important subjects of lithotomy and lithotrity. These two methods of ridding the bladder of a calculus have each its advantages; still we find in this, as in many other instances, surgeons giving their adhesion exclusively to one mode of operation, and decrying the other. Lithotomy answers in cases in which lithotrity is altogether inadmissible, as in the case of children; again, lithotrity is, as a general rule, more suitable for employment with adults, and may be tried cautiously where the operation of lithotomy would be altogether contra-indicated. When the patient is an adult, when the bladder and kidneys are sound, and the calculus of moderate size, and not extremely hard in its composition, no one at the present day should think of having recourse to any operation but that of lithotrity. The objection that small fragments generally remain behind, and are apt to become the nuclei of other calculi, is futile; there is no reason why the bladder

could not expel every particle of a stone if it be broken up into sufficiently small pieces; and the fact that in France, where lithotrity is very generally employed, there appear to be complete and permanent recoveries after it, is in itself enough to establish its practical value. The surgeon cannot confine himself to one or other of these operations; and on this we beg the attention of our readers to the following observations:

"In estimating the value of one or other mode of ridding the patient of the stone, we must calculate the results negatively as well as positively. We cannot acquire a sufficient insight into the merits of lithotomy without we also apply our minds to the results of the rival method of cure; viz., that of breaking up the stone within the bladder by means of the lithotrite. One fact is obvious, that the operation of lithotomy must be retained by all practical surgeons, as indispensable to treatment in many cases in which the resort to the screw of the lithotrite is as impossible as though it had never been invented; while, on the other hand, the known facility by which, under favourable circumstances for the operation, a stone in the bladder may be broken to pieces, and entirely got away without pain or injury, or considerable suffering of any kind to the individual, gives such palpable superiority, on the score of security, to this mode of treatment over the former, that it would appear an unpardonable neglect of the interests of those consigned to our charge, to resort to the old operation. It is obvious, therefore, that of the two modes of proceeding neither can be dispensed with, and the first duty of the surgeon, in any given case, is to determine which method is the more applicable, and more likely to meet all its necessities. If we were to select a case for the exhibition of the operation of lithotrity, —and I take lithotrity as the rule, and the cutting operation as the exception, considering the simpler and the safer course to be that demanding the first consideration, and before the tribunal of which the case is to be first brought for trial,—if we had the power of selecting a case especially suitable in all its bearings, we should require the following conditions:—First, well-developed manhood. Second, a healthy and readily dilatable urethra. Third, a bladder free from irritation, and capable of retaining at least six ounces of urine, a condition which infers the absence of prostatic disease. Fourth, a tonic condition of the nervous system; and Fifth, the presence of a stone of such dimensions as to be readily embraced by the screw of the lithotrite."

The author remarks that it is not always necessary to withhold the lithotrite where there is muco-purulent discharge with the urine, and in confirmation of his statement adduces a case which was under his own care. The fact that muco-purulent discharge does not contra-indicate lithothrity, our own experience corroborates. Indeed it appears to us the most rational

proceeding to rid the bladder at once of the foreign body which is exciting the mischief. Should an excess of inflammation arise from any cause, we ought of course to wait until it is reduced, before having recourse to the operation

The author conceives that it is better to avoid making the patient endeavour to expel the detritus immediately upon rising after the operation; the bladder, he says, "appears paralysed by the violence done to it." With the view of saving the bladder from the labour of expelling the detritus by its own efforts after the operation, Sir Philip Crampton has invented a very ingenious and scientific plan. He employs a large ovoid-shaped bottle of very strong glass, one extremity of which is furnished with a stop-cock and short brass tube, just sufficiently large to enter the upper extremity of the steel catheter, which is wider than those in ordinary use. This apparatus is partially exhausted by means of a common exhausting syringe, the tube is then inserted into the mouth of the catheter, the cock turned, and the atmospheric pressure forces into the bottle the contents of the bladder, which carry with them the fragments of the broken-up calculus. This method requires to be manipulated with caution and gentleness.

In the operation for lithotomy, Mr. Skey recommends the plan of striking the knife at once into the groove of the staff at the very commencement of the first incision; this is adopting, in fact, the mode followed by Frère Jacques.

Our author next describes the operations for club-foot, for imperforate anus, the removal of cicatrices, autoplastic operations, the extractions of foreign bodies, ovariotomy, &c. He then passes to the operations about the eye-lids, dwells a little upon the subject of cataract and its operations, and finally winds up with a short account of the operations on the orbit and the lachrymal apparatus.

We have thus reviewed, as fully as we think the merits of his book deserved, Mr. Skey's Operative Surgery. We regret that our notice has been one rather of censure than of praise; and we confess that we have criticised the work more severely than we should have done were it the production of a practitioner of less eminence, or of one who had enjoyed a more limited sphere of practice than a surgeon of St. Bartholomew's Hospital, London.

Recherches sur le Crétinisme en géneral, et Compte Rendu du Rapport de la Commission nommée par le Roi de Sardaigne pour etudier cette Infirmité. Par M. Boudin, Médecin en chef de l'Hôpital Militaire du Roule. (*Archives Générales de Médecine*, September, 1850.)

Researches on Cretinism in general, and the Report of the Commission appointed by the King of Sardinia to investigate this Infirmity. By M. Boudin, Physician to the Military Hospital of Roule.

The most ancient records of medicine abound in statements relative to the custom of governments consulting physicians relative to measures affecting the public health, not merely with a view to the cure, but also to the *prevention* of disease.

We are told that the civic authorities of Athens had recourse to Hippocrates for advice, as to sanitary regulations, during the prevalence of the great plague described by Thucydides. But it is much to be lamented that this usage, so fraught with advantage to the public weal, had fallen into disuse for ages, and is only in our own time being revived.

This, like many other of the so-called *modern* improvements, is merely a recurrence to a practice as old as the days of the father of physic. We cannot, nevertheless, but hail with pleasure the many instances now presented to us of a solicitous care, on the part of governments, as to questions in which the health of the masses is concerned.

After complimenting the Government of Great Britain on the appointment of commissions with the laudable object of ameliorating the public health, such, for example, as the commission to inquire into the state of large towns and populous districts, and that from which emanated the statistical reports of the army and navy of England, M. Boudin informs us that, ten years since, the Helvetic Society of Natural Sciences deputed a commission to collect materials for a statistical history of cretinism in Switzerland, but failure of funds and want of proper organization prevented the Society from carrying out their excellent object.

In 1845 the Piedmontese Government intrusted to a commission an inquiry into cretinism in the Sardinian states. This commission made an appeal to all the physicians and ecclesiastics of the kingdom for information, and directed one of its members, M. Trombotto, to proceed to the different localities in which cretinism prevailed, that he might investigate the matter more closely. The researches of this physician, with

509 returns from the clergy, and ninety-four memoirs forwarded by physicians, serve for the basis of the reports published by the Sardinian government.

According to M. Boudin's resumè of the Report, the commission[a] defines cretinism to be "a degeneracy of the human species, which manifests itself in certain parts of the globe, and is characterized by idiotism, more or less marked, associated with a wretched cast of body, which is produced by causes so extended that a great number of the inhabitants are more or less affected by it in the development of mind and body."

Cretinism, which is a variety of idiotism, had previously, by Bischoff, in general terms, but in a most comprehensive definition, been said to be "a degeneracy and retardation of all the functions of body and mind."

It is a matter of much surprise that in ancient writings we find no notice of cretinism; the first mention made of it is in the commencement of the sixteenth century. Of late years many monographs on the subject have appeared; but we must consider the report before us as the most important document hitherto published upon this wide-spread malady, so miserable as regards its victims.

As to the geographical distribution of cretinism, it has been observed in Europe in the Alps, the Pyrenees, the Jura, the Hartz, and the Carpathians; in America in the Cordilleras; in Asia in the Himalayas, the mountains of Thibet, of Tartary, and of China. M. Boudin informs us that he has never encountered it in Algeria, but he has been told that some cretins exist in the Atlas.

Cretinism prevails over an enormous extent of the surface of the globe, from the Pyrenees to the wall of China, and from the Alps to Madagascar.

In the Sardinian States, the principal seat of the malady is in the valleys which surround Mont Blanc. In a population of 4,125,740, half of which inhabits the hills and half the plains, there are 21,341 affected with goitre, and 7084 cretins.

Sometimes the new-born child, threatened with cretinism, presents already an enormous and deformed head, which it can with difficulty support. The forehead is almost completely hidden by thick hair, which meets the eye-brows; the nose is flattened, the mouth large, the tongue thick, and the neck short and often furnished with a goitre.

[a] The Commission was composed of MM Gallo, professor of surgery, president; Despine, inspector of mines; Riberi, professor of surgery; Bonino, physician to the army: Sismonde, professor of mineralogy; Cantu, professor of chemistry; Bertini, Gèné, Bellingeri, professors of the faculty of Turin; and M. Trombotto.

Cretins who have attained their full growth are often not more than three feet high. The cretin is generally thin and lank, but sometimes œdematous, with skin of a deep yellow hue, and a countenance which indicates a negative state of the intellectual functions, undergoing little change from the influence of age.

M. Boudin thus sums up the signs of cretinism, but to persons who have never seen these wretched pariahs of nature, the graphic description of Berchtold-Baupré will supply a more life-like picture:

"Who is this melancholy creature that bears the human form in its lowest and most repulsive expression? I see a head of unusual form and size, a squat and bloated figure, with a stupid look, with blear, hollow, and heavy eyes, with thick, projecting eye-lids, and a flat nose. His face is of a leaden hue; his skin is dirty and flabby, covered with tetters; and his thick tongue hangs down over his moist, livid lips. His mouth, always open and full of saliva, shows teeth which are rapidly decaying. His chest is narrow, his back curved, his breath asthmatic.

"I see, indeed, arms and legs, but the limbs are short, misshapen, lean, stiff, without power and without utility. The knees are thick and inclined inwards, the feet flat. The large head droops listlessly on the breast; the belly resembles a bag, and its integuments are so loose that they cannot retain the intestines in its cavity. This loathsome idiotic being *hears not, speaks not*, and only now and then utters a wild, inarticulate sound. Notwithstanding his greediness he is scarcely able to support life.

"One passion alone seems sometimes to rouse him from his usual insensibility; this is the sexual instinct in its rudest brutality. At first sight we should be inclined to take this wretched being for a gigantic polypus, something in imitation of a man, for it scarcely moves; it creeps with the painful heaviness of the sloth, and yet it is the monarch of the earth, but dethroned and degraded."

Cretins are subject to few ailments; but in the valley of the Po ruptures are frequent, and pellagra is not an unusual complication of cretinism. The pathology of cretinism is very shortly disposed of in the report of the Sardinian Commissioners. Only five out of the ninety-four physicians who supplied materials replied to this portion of the proposed queries, and they have been silent as to the diseases which proved fatal in the cases which they examined.

The pathological states are briefly reported to be: thick-

ening of the bones of the skull, the volume of the brain diminished, and its substance either indurated or softened.

There is no reference to the great development of the sympathetic nerve, so remarkable when contrasted with the defective development of the cerebral organization.

As to the influence of sex in the production of cretinism and goitre, we find that males supply the greatest number affected with the former, and females with the latter malady.

	Males.	Females.
Goitre, ...	4323	5236
Cretins without goitre, ...	1120	891
Cretins with goitre, ...	1943	1959

Cretinism manifests itself, in most cases, from the period of birth to two years of age, and from five to twelve, the true period of strumous activity. We are surprised to perceive by the statistical documents that the hereditary nature of the disease is not very clearly established; since amongst 8000 fathers and mothers of cretins not more than 300 were afflicted with cretinism.

Parents who are cretins beget healthy children, and *vice versa*. Cretinism is often congenital, and infant cretins are met with who are incapable of taking the mother's breast.

The influence of a particular locality in the production of cretinism and goitre is well shown by the following deposition, which was made by a man named Welleger, in the course of an inquiry instituted by the Austrian government in the year 1844:

"My father observed that the throats of strange servants coming to inhabit his farm soon became large; they breathed with difficulty, their knees swelled, their feet became stiff and weak, and they were also attacked with shooting pains. After some years the intellect, which gradually grew weaker, at length approached closely to cretinism. The persons born on the farm were afflicted with this infirmity in the highest degree: it was formerly occupied by a family composed of four children, cretins, and an uncle, a demi-cretin. The father of the children was also a demi-cretin, which, however, did not prevent the two brothers from arriving at the age of 100 and 105. The same degeneracy was observed among the cattle, particularly the horned cattle. It was necessary to procure beasts from a distance, owing to the young cattle being affected with intestinal diseases and malformations. In the seigneurie of Abbeck the same observations were made. The present proprietor, after purchasing the property, took up his abode there, with his wife, both being in good health: she died a

demi-cretin, and afflicted with goitre. The proprietor and his second wife have also passed into demi-cretinism. The five children of the first marriage are idiots, their necks thick and their bodies stiff. The children of the second marriage, one aged three, and the other one year, are still in good health, but the same fate awaits them as their elder brothers, for the latter, also, were healthy in their early infancy. It is remarked that the stiffness of the feet, general torpor of the body, and dulness of the intellectual faculties, are associated with deafness and loss of speech, and they increase with age. It is also observed, that children born healthy do not show this malady until the latter years of childhood, but as they grow they gradually become cretins. When children who are affected change the locality, and drink water of a good quality, an improvement in their condition takes place."

The valleys most desolated by cretinism are deep, narrow, winding, and closed at the extremities, such as the valley of Maurienne. Their direction seems to have no influence. It has been observed that the villages most infected lie in the secondary valleys, so disposed that the winds prevail constantly in the same direction. Valleys which are open and spacious rarely contain cretins. The Commissioners do not point out, as Schönlein has done, that the shady sides of the valleys are peculiarly the cretin districts. They remarked stagnant water near all the villages where cretinism prevailed, and they observed a great diminution in the disease where draining had been practised. It had been previously stated by Rösch that the damp localities were the chief habitats of cretinism. The drinkable water in these localities abounds in calcareous salts, and is remarkable for an absence of iodine and bromine. This fact, however, loses much of its value when it is remembered that at Ivrée, where the water is extremely bad, there is neither cretinism nor goitre; whilst, on the other hand, these two affections are prevalent at Saint Vincent and the valley of Aoste, where the water is admirable.

The commissioners deduce the following general conclusions from their examination:

1. Endemic cretinism is limited, in continental states, to the valleys and plains which belong to the great alpine elevations.

2. There is an extreme similitude between the different infected valleys.

3. The valleys in which the greatest number of cretins are to be found, are those which are deepest, most close, most moist, and deprived to the greatest degree of light and air.

4. Cretins are most frequently met with in the least fre-

quented situations, in habitations ill-built, out of the way of public resort, and in the neighbourhood of marshes.

5. In the large towns and villages, where there is a great influx of strangers, it is only in the least frequented parts, where the progress of civilization and commerce has not extended, that cretins are to be found.

These conclusions, however, are not without exceptions. The Sardinian Commission determined upon adopting the following measures:

1. To drain the marshes, and to make canals for the rivers which overflow their banks. 2. To cultivate the drained lands. 3. To take down the plantations of lofty forest trees, in the neighbourhood of houses, to a distance of sixty yards, so as to admit freely the sun and air. 4. In districts where chemical analysis or experience has proved that the water which is used for drinking is unwholesome, to obtain water from a good source, or, if that be not practicable, to erect cisterns for rain water. 5. To demolish houses which, either from their situation or from their construction, are insalubrious and incapable of being ameliorated. 6. To prevent the erection of houses in localities acknowledged to be unwholesome. 7. To oblige landlords to construct houses according to sanitary rules, and to select good situations; the houses to be two stories high, and the ground floor to be raised above the level of the surrounding soil by means of a pavement or a bed of sand. 8. In the building of new villages, to avoid the valleys; to select elevated sites, exposed to the sun and wind; to make the roads broad, and to pave them with limestone. 9. To promote cleanliness everywhere. 10. To establish a sanitary council, composed chiefly of physicians, with plenary powers to execute every thing which may be required for the maintenance of public health. 11. To make laws to prevent the excessive rising of price of the necessaries of life, and to prevent the immoderate use of spirituous liquors. 12. To sell salt at the lowest possible price, so that the consumption should be great. 13. To encourage the use of animal food. 14. To promote trade by all means, so that employment may be general during the winter. 15. To open the country by new roads, with the view of facilitating communication and attracting travellers. Experience has shown that, even in a sanitary point of view, the opening of the pass of the little St. Bernard has been beneficial. 16. To establish public gymnastic games. 17. To prevent, by every possible means, individuals who have a tendency to cretinism, or who belong to families in which cretinism appears to be hereditary, or such as are rachitic

or scrofulous in a high degree, from contracting marriages; and to favour the "crossing" of races. 18. To have regular attendance on women in labour. 19. To cause women, who are members of families in which cretinism is frequent, to reside in healthful localities during their pregnancy, and while they are nursing their infants. 20. To institute prizes for the most careful mothers. 21. To establish asylums and schools. 22. To disseminate, as much as possible, sanitary regulations. 23. To collect the cretins in an establishment similar to that of Abdenberg.

We have now, finally, to refer to the most interesting question connected with cretinism, namely, its curability.

Recent investigations and the indefatigable labours of Dr. Guggenbühl, lead us to form a more favourable opinion on this subject than we could, *a priori*, have anticipated.

Congenital malformation of the brain appears to be the only condition which absolutely precludes the possibility of cure. All treatment is unavailing unless the patient is removed from those atmospherico-telluric states which are confessedly known to favour the production of the malady. Everything depends upon the early application of remedial measures. If it be conceded that cretinism is, what the German writers on the disease consider it to be, "an advanced stage of rachitis and scrofula," we are encouraged to have recourse to the means which are found so potent in the cognate affections.

We would mention cod-liver oil as worthy of the most extensive trial, and medically directed education is essential above all things. That cretinism is not only not absolutely incurable, but that individuals who have been cretins are capable of considerable mental culture, is abundantly manifested in the case of Dr. Odet, who was himself in the first stage of cretinism, and by judicious management recovered so completely that he wrote an essay on the disease.

Of the manner in which the Sardinian Commissioners have executed the task confided to them, we are enabled to speak in terms of high praise; but we regret that some of the measures they propose are visionary and impracticable.

Take, for example, the seventeenth clause. If we could by any means prevent members of families who have an hereditary taint from contracting marriages, it would most assuredly be fraught with the utmost advantage to the public health, but can we deal with human beings as we are in the habit of doing with lower animals, and "cross the breed" at pleasure, with a view to their improvement?

If the preventive measures which the Commissioners have recommended, and which are really practicable, namely, the draining of marshes, the cultivation of the drained lands, the building of habitations in healthful localities, and the construction of great highways, are carried into effect by the government, we are satisfied that the result will be a vast diminution of one of the most deplorable maladies with which humanity is afflicted.

Lettres sur la Syphilis, à M. le Docteur Amédée Latour, Redacteur en chef de l'Union Médicale. Par M. Ricord. Paris, 1850.

Letters on Syphilis. By M. Ricord.

M. Ricord, whose name is so well known as the most successful and able inquirer amongst the French surgeons of modern times into the nature and treatment of syphilitic diseases, has undertaken to publish a full exposition of his views in the above-mentioned medical journal, in the form of a series of letters to the editor. We gladly seize the opportunity, which an analysis of them will afford, of laying before our readers a full account of his doctrines. The letters are not yet completed, but we shall take up what may be termed the first division of them at present, namely, those which refer to blennorrhagia[a], and complete the subject in a future Number of our Journal.

The author commences by complaining that his new doctrine of syphilis has met the same fate with all scientific discoveries, although during the last twenty years he has, both in his teaching and by his writings, endeavoured to render it intelligible to his contemporaries, for even yet it is not fully understood by all. One class of those who oppose his views continues still to put forth objections which he has over and over again refuted; whilst another class more extraordinarily seizes upon objections first advanced by himself, and by means of them ingeniously imagine that they can refute his doctrines. That such is the case he is neither astonished nor indignant, but, on the contrary, thanks his adversaries for having presented him with a new stimulus to exertion. The fact, he remarks, is obvious, that syphilography has not

[a] The term *blennorrhagia* is employed by M. Ricord to signify a "muco-purulent" discharge. Its use in this sense is not quite free from objection, but it is now generally employed by the French surgeons, and is probably less open to cavil than any other which could be proposed.

escaped the general revolution of scientific medicine, caused by physiological doctrines. The school of Broussais overthrowing all which preceded it, had even questioned the existence of a syphilitic virus. Hence arose an era of confusion, easily to be recognized in the writings of that time, in which all was doubt and uncertainty. At this period M. Ricord was appointed by "concours" to the hospital "du Midi," where, as his colleague, he found M. Cullerier, who, "upright and honest as a man, steady and rigidly exact as a practitioner, abandoned tradition (if the phrase may be allowed) beginning even to doubt what he himself observed, and no longer believing what he saw,—in short, doubt had with him taken the place of belief."

The cause of syphilis was doubted, its effects were doubted, its therapeutics were doubted. The physiological doctrine was adorned by great scientific display; M. Richond des Brus wrote a voluminous work, replete with facts; M. Desruelles brought statistics to its aid; and all pressed forward to combat the identity of the virus and its specific treatment. History even was placed under heavy contribution by M. Jourdan, one of the most learned writers of the age, who published a most valuable work, in which he places the opinions of former writers in contradiction to each other, and denies the identity of the syphilitic poison. Such was the state of science upon our author's appointment to the hospital "du Midi," when he resolved to take up the study of the cause of syphilis, proposing to himself the following questions:

Is there a special cause, a virus?—or do all venereal diseases spring from a common cause?

Two means of investigating this inquiry presented themselves to him. The first being the pure and simple study of the phenomena, as was practised by his predecessors, and which led to such different conclusions; as a specimen of which he cites the case of the three officers who had connexion with the same female while affected with a discharge, one of whom contracted a urethritis, the other a chancre, and in the third warts appeared. But Devergie, who first related the case, did not employ the speculum, and consequently no correct deduction could be drawn from it The second method of inquiry was more pleasing to our author, as being more in accordance with the demands of modern science, namely, experiment. With this view he then imposed on himself the following conditions in his investigations: to derive the syphilitic virus from a known source, to place it upon a part easy of observation, and to note its effects. Experiment could alone fulfil these conditions; but experiment had been

tried before, and the results arrived at had been contradictory. What John Hunter had affirmed was denied by Caron, Brus, Jourdan, Devergie, and Desruelles.

The research was no doubt difficult, and required moral courage not to be led away by the illustrious names of Hunter or of Bell, or by the writings of Hernandez, of Percy, &c. The question should be studied anew, and the author should be solely responsible for the results.

How then was he to proceed?—To inoculate a healthy individual from a diseased one, or to experiment upon a diseased person himself? The former he considered unjustifiable; but did the second present fresh dangers to the patient, and if not, could it conduce to decisive results?

Previous observations and experience had led to the conclusions, that a former contagion does not hinder a second; that the primary symptoms are seldom solitary; that they multiply themselves with great facility; and that the gravity of the disease bears no relation to the number of primary sores.

Was it not then allowable, with the intention of throwing light upon a serious question in etiology and practice, to imitate by art what nature does habitually; more especially when close clinical observation had always proved that the constitutional disease bears no ratio to the number of primary sores, nor does a large extent of ulcerated surface leave the patient more liable to after consequences than a small one? Boerhaave, amongst others, had given it as his opinion, that venereal sores contracted in any other way than by the genital organs were always followed by severer constitutional symptoms. But clinical observation has demonstrated the fallacy of his observation.

M. Ricord concludes his first letter by stating that he has drawn the following deductions from the history of the disease, from universal clinical observation, and from the experiments of those who have preceded him:—in making his experiments on a diseased individual, by inoculation with matter obtained from himself, an additional disease would not be communicated to him, the gravity of the disease with which the patient was already afflicted would not be augmented, nor would he, in fine, be exposed thereby to greater danger of consecutive infection. For the better understanding of this part of the subject, the author directs attention to the endeavours made to inoculate animals with the virus taken from man, either with the intention of obviating the objection which might be supposed to arise from the use of matter taken from a person upon himself, or for the resolution of the curious problem

as to the possibility of the transmission of syphilis to animals. Hunter and Turnbull had tried in vain to inoculate animals with the syphilitic virus, and they obtained but negative results, whilst M. Auzias-Turenne believes that he has succeeded with certain classes of animals; which success, however, M. Ricord expresses his belief to be illusory. M. Cullerier, at the hospital Lourcine, and M. Vidal de Cassis, have studied this subject with much care, and have also arrived at only negative results.

Direct experiment and observations made upon an individual himself, were then the only means that could be depended on, and to these alone M. Ricord resolved to trust. It was, therefore, necessary that he should first seek out a source on which he could rely, in order that he could direct his investigations by it; and, consequently, he could no longer be content with the history of their cases given by patients themselves. It was also necessary to avoid the objections so justly urged against the experiments of Hunter and of Harrison, the facts reported by Bell, and the experiments of Hernandez. With this intention he studied the nature of the tissues from which he was to draw the reputed specific cause. It would not suffice, to use the words of Petronius, that a woman should be reputed diseased, nor would it answer to take at hazard a morbid secretion coming from the genital organs of a woman, to make, in short, according to the expression of Alexander Benedictus, a venereal tincture of a uniform colour, no matter what was its source. The scientific tendencies of the age demanded more.

M. Ricord did not adopt the simple conclusion, that the effects follow from the cause. "Who cannot be surprised," says he, "that in a question such as the venereal disease, where ignorance and fraud, as Hunter expresses himself, are the so frequent causes of error, and where this disease is almost always a proof of flagrant immorality, that surgeons have received the supposed morality of the patients as the testimony of their innocence? The testimony of their innocence!! In such cases there is nothing more deceptive, and especially as regards women."

Babington was the first to oppose the law laid down by Hunter,—that when neither pus nor puriform secretion were present, the disease could not be communicated; in fine, that infection is not possible before the appearance of a gonorrhœa, or after the cicatrization of a chancre. Babington urges that this conclusion is not without danger, and brings forward the following case, amongst others, as a proof:—"A traveller having exposed himself to the chances of a syphilitic

infection, arrived at home three days afterwards. About four days after his arrival, his wife was attacked with a gonorrhœa, and it was not until after ten days that he perceived for the first time that he was affected with a discharge, attended with the other symptoms of gonorrhœa." "If, under such circumstances," says M. Ricord, "Babington had not been satisfied with obtaining his information from the lady's lips, but had proceeded to an examination, he certainly would have found that the infecting cause lay not in the genital organs of this candid husband."

In cases of syphilis it is absurd to attempt to found a pathological truth upon the moral testimony of the patient. Where, then, is the cause of the disease to be looked for? At its source, in the genital organs, both internally and externally. Our author tells us that at the period of his election to the hospital "du Midi," the ordinary way of examining the female patients was to place them sitting upon the edge of a chair, and to separate the external parts of the organs of generation. If no lesion of their tissue was apparent, all morbid secretions coming from a more internal part were commonly reported as a blennorrhagic discharge: the entrance to the vagina being to his predecessors "the pillars of Hercules of chancre." Discontented with this mode of examination, it fortunately occurred for him, that M. Recamier shortly afterwards exhumed, from the armoury of surgery, the speculum; and all are now aware of the brilliant diagnoses made by its assistance, in the diseases of the uterus. This instrument had never been employed in the diagnosis of syphilitic diseases, and its use was even said to be contra-indicated in such cases, until our author, regardless of the received opinions, employed it in his practice, and acknowledges, that to its use he is mainly indebted for the success attendant upon his labours; for by means of it he was enabled to examine with the greatest accuracy the affected surfaces, and to witness the exact state of their secretions.

Commencing with blennorrhagia, M. Ricord endeavoured first to resolve, by experiment, the problem, "*Must blennorrhagia be ascribed in all cases to a specific cause?*" Hunter had proved that inoculation with the pus of a chancre produced a chancre. If, then, says our author, blennorrhagia must be ascribed to a specific cause, the muco-pus which it secretes, being inoculated, will indubitably produce phenomena similar to those which the inoculation of pus from a chancre produces. To be accurate in his results, to avoid all complications, and to remove all errors, it was necessary that the inoculation should be performed with muco-pus taken from a simple blennor-

rhagia, and from tissues completely free from all ulceration. It can then be well imagined how necessary was the use of the speculum, for without its employment these investigations would be impossible. Having made numerous experiments, and continued his researches for a length of time, M. Ricord was led to the result which he has embodied in the following proposition:

When muco-pus is taken from a non-ulcerated surface, the results of inoculation with it are negative?

The author affirms that all who have made this experiment have arrived at the same conclusion. To the truth of this we can bear testimony, having often repeated the experiment and never having been able to produce a specific ulceration; it is true that we have sometimes produced an irritation, but we believe the same would have resulted from a virgin lancet.

Some syphilographers have thought, with Hunter, that blennorrhagia was a form of syphilis peculiar to the mucous membrane. The preceding experiments disprove such to be the case, and as our author proceeds he shows that the purulent matter of a chancre coming in contact with a mucous membrane will produce on it a true chancre. The practical conclusion he draws from this portion of the inquiry is embodied in the following words:

Blennorrhagia, inoculation with the muco-pus of which gives no result, does not owe its cause to syphilitic virus.

Is it then produced by a *specific* virus? Nothing is more likely to give rise to blennorrhagia than the muco-pus furnished by certain inflamed mucous membranes. But on examining the question more closely we must acknowledge that a virus is wanting; nothing being more common than to find women who have communicated a blennorrhagia of a most intense form, with its attendant consequences, to have been themselves affected with only a uterine catarrh, scarcely purulent. In other cases the menstrual flux has been the sole cause. Again, we find, as exciting causes, errors in diet, fatigue, excessive venereal indulgence, or the use of certain beverages, as beer, of certain aliments, as asparagus, &c.; and even some will affirm that blennorrhagia is produced by connexion with a woman in perfect health. Against the many causes of error and fraud with which the path of the observer is strewed, our author is fully on his guard, and consequently maintains the following proposition:

Women frequently communicate a blennorrhagia when they are themselves unaffected.

For example: a married woman affected with a discharge

may cohabit with her husband, who has, if we may be allowed the expression, been acclimatized; but should another have intercourse with her, he may become affected with a blennorrhagia. Thus, when the causation of blennorrhagia is studied without prejudice or preconceived opinion, we are forced to allow that it is often produced under the influence, for the most part, of causes which are likely to give rise to inflammation of mucous membranes. Swediaur has proved this by his experiment of injecting a solution of ammonia into the urethra, and thereby producing a blennorrhagia. Did he mean by this experiment to assert that a blennorrhagia could be produced at will by an irritating injection? Without doubt not; no more than a coryza or ophthalmia could be caused by similar means. For blennorrhagia, as for all other inflammations, there is necessary a predisposition, that great unknown which rules over all pathology.

Some have imagined, with M. Baumes, that blennorrhagia arises from a sort of demi-virus or degenerescence of chancre. This is certainly the doctrine of the *juste milieu;* but to justify such, says M. Ricord, we have neither facts, observations, nor experience; and he believes that simple blennorrhagia is a complete stranger to syphilis, as far as regards its causation. Faithful to his premises, he affirms that when Harrison produced a blennorrhagia with pus taken from a chancre, it either acted as a simple irritant or produced a chancre; and that when Hunter imagined he produced a chancre with blennorrhagic matter, such could not have been the case if he had not employed for inoculation the matter of a true chancre. But if inoculation has proved that the cause or causes of blennorrhagia, whatever may be their seat in the two sexes, differ from the specific cause—from that virus which inevitably produces chancre, the consequences of blennorrhagia ought always to differ from those of chancre; and yet many cases of constitutional syphilis are attributed to blennorrhagia.

We shall next proceed to the inquiry into the incubation of blennorrhagia. The period of time fixed by Hunter and others was from a few hours to fifty days; a very *elastic* incubation, no doubt. In virulent diseases, where incubation is incontestable, the limits can be more clearly determined, as in syphilis, in scarlatina, in measles, &c. Even in plague, owing to the successful labours of M. Aubert Roche, the period has been determined to be eight days. That there is a greater or less amount of time between the cause and the appearance of the phenomena of blennorrhagia, the author does not deny; but

he denies that it can be truly called an incubation, no more than we should call the time which elapses between a wetting of the feet and the appearance of a coryza a true incubation. In the cases where blennorrhagia does not appear for a long time after the patient was presumed to have been exposed to its exciting cause, is it not more rational to admit some unknown cause than to refer it to incubation? Is it not the case with other species of inflammation? Can the cause of a pneumonia, of an arthritis, of a phlegmon, be always discovered? Beyond doubt, sexual intercourse is, in the male sex, the most frequently exciting cause; but he that would not admit other causes would fall into strange errors.

Where is blennorrhagia seated? This is a much debated question. In man it has been made to wander from behind forwards, and from before backwards, according to the fruitful imagination of syphilographers. Bell, in establishing his different degrees of blennorrhagia, has made it retrogade from before backwards. Hunter admits a virulent blennorrhagia identical with chancre, and places its seat in the fossa navicularis, but questions its virulency if it advance further backwards. Here then we find the spirit of systematizing ruling over the genius of Hunter, and his talent for observation continually struggling against his theory of blennorrhagia.

Graff has placed the seat of virulent blennorrhagia in the female sex, in the follicles in the neighbourhood of the urethra; Mouliné thought he had found it in the vulvular glands, so well described by Bertholin, and the pathology of which was so ably traced by Boërhaave, and lately more completely by Hugier.

Amidst these opinions, observation teaches us that the parts of the mucous membrane most exposed are those most easily affected. Our author, however, admits, that, as regards sexual intercourse, the urethral mucous membrane, in both sexes, is the part most frequently attacked. This fact has been laid hold of, as an argument, by the partisans of contagion; and M. Ricord says, that he would corroborate this view, if the term contagion is understood to express, what appears to him incontestable, that women suffering from blennorrhagia of the urethra may be considered as having, in most cases, contracted it from men affected with the same disease. Our own experience fully proves such to be the fact, and in doubtful cases we have been in the habit of introducing a finger into the vagina, and pressing against the urethra, when, if we find that pus is discharged from it, we pronounce the case to be a blennorrhagia occasioned by sexual intercourse.

Our author then demands, does this circumstance prove a virulent contagion? Certainly not: and he explains it by the sole and incontrovertible fact, that pus furnished by the urethra is the most irritant of all varieties of pus, when applied to certain mucous membranes.

Some syphilographers deny the existence of urethral blennorrhagia in woman, whilst others allow of no other form. Both opinions, when in the extreme, M. Ricord believes to be erroneous, as observation has induced him to admit, that every variety of blennorrhagia occurs upon all mucous membranes. If the lesion of tissue which blennorrhagia produces be examined, nothing will be found which simple inflammation may not produce; at one time being but a slight erythematous state without secretion, the dry blennorrhagia of some authors, a name ridiculous and absurd when introduced into syphilography. While, in the catarrhal form, we have mucous or mucopurulent discharges, which are only inflammatory complications, producing in the male chordee and abscess along the course of the urethra.

But, neither in the state of the tissues or the nature of their products, do we find anything which can be truly compared to those of syphilis: there may be some analogies, but there are notable differences. Thus amongst the first consequences of blennorrhagia, resembling the products of syphilis, is bubo; but this is infinitely more rare as a consequence of blennorrhagia than of chancre. In both the sexes bubo is only found where the blennorrhagia has been urethral, the other varieties never occasioning it. Peri-auricular buboes have been spoken of as accompanying blennorrhagic ophthalmia, but our author has never witnessed their occurrence.

Blennorrhagic buboes are highly inflammatory, little inclined to suppurate, and, even when they do, are not inoculable. Blennorrhagic ophthalmia appears only in company with the urethral form: and is it possible to confound it with, or draw the slightest comparison between it and syphilitic iritis! or can we establish the slightest similarity between blennorrhagic rheumatism and syphilitic exostosis! As regards eruptions, our author is much astonished how persons pretending to any experience could possibly have confounded eruptions attendant on the use of copaiba with those peculiar to syphilis. In fine, what surgeon of the present day could confound blennorrhagic epididymitis with syphilitic sarcocele? It was not possible to do so in the time of Bell, and still less so since the days of Sir A. Cooper. Our author begs that he may be permitted to pass over in silence the so-called tubercular diathesis, propounded in

Germany, as a consequence of the virulence of blennorrhagia, the subject of tuberculization being already sufficiently obscure without being shrouded in additional darkness. In conclusion, the argument may be reduced to this: that when blennorrhagia is stated to be the cause of constitutional syphilis, there must be some other source for it of a different nature from that which we have laid before our readers as simple blennorrhagia.

It has been proved by experiment and pathological anatomy that the urethra, and other deeply seated parts of the mucous membrane lining the genital organs, have been affected with chancrous ulceration. Was it not owing to their want of knowledge of the existence of *concealed* chancre that the doctrines of Balfour, of Todd, of Bell, and of Hernandez, have fallen to the ground? The existence, then, of concealed chancre being acknowledged, who doubts the existence of virulent blennorrhagia, which is solely the effects of chancre? There is nothing new in the idea, for Mayerne, in the seventeenth century, attributed urethral blennorrhagia to intra-urethral ulcers, and named them πυροια; and is it not singular that Swediaur, who maintains the identity of blennorrhagia and chancre, should state that no one can deny the existence of virulent blennorrhagia, for he had witnessed ulceration within the urethra?

If in three felons who had been affected with blennorrhagia, and who were examined, after death, by Hunter, and if, in the instance in which a *post mortem* examination was made by Philippe Boyer, and even if in other cases no ulceration was found, what does it prove but that they were cases of simple blennorrhagia? M. Ricord has exhibited to the Academy specimens of ulcerated urethra, which he proved to have been caused, during life, by inoculation. Then is it not natural, the existence of urethral chancre being acknowledged, that it should be affirmed to be the cause of constitutional symptoms? But, it has been asked, are there not blennorrhagias which have been followed by constitutional symptoms, in which it is impossible to prove the existence of urethral chancre? Our author concedes this point, but says his concession is only apparent, as the facts had not been properly explained. It is also true that, in relative proportion to the number of blennorrhagias, *concealed* chancre constitutes the exception. Again," says M. Ricord, "it has been urged, and with an appearance of truth, that the great number of secondary symptoms said to follow upon a supposed *concealed* chancre are almost in proportion to those which succeed upon the exterior form of chancre. Must we conclude that *concealed* chancre occurs rarely, because we are not troubled with secondary symptoms by the vast mul-

titude who suffer from simple blennorrhagia; yet secondary symptoms are by no means rare amongst those who have been affected with this form of chancre. Besides, in all the cases where constitutional syphilis has been reported to have followed blennorrhagia, have all possible precautions been taken to prevent error? Undoubtedly not. Do we not every day find medical men contented with the diagnosis given to them by their patients? How science has fallen! This may be seen by the reliance placed on the history given by the patient in the memoirs of Martin and Cazenave, and in the thesis, otherwise so well executed, of M. Legendre. Why this cause of error? Blennorrhagia is generally a painful and tormenting disease, leaving behind it *sad reminiscences*, whilst the chancre that is followed by constitutional symptoms is in general indolent, suppurates but slowly, has little tendency to increase, and often cicatrizes without care; little heed is, therefore, taken of it, and it is regarded simply as an excoriation. Are all cases of constitutional syphilis, which are said to have owed their cause to blennorrhagia (even if the presence of urethral chancre be allowed), due to this cause? Most undoubtedly not. Can we forget how many other ways are open to the entrance of the virus, which patients may either forget or wish to conceal?"

The opinion of Girtanner is, "that syphilis owes its origin most commonly to chancres and buboes": of Swediaur,—"That the symptoms of syphilis seldom appear as the consequence of a blennorrhagia;" of Rayer,—"That secondary cutaneous eruptions are of rare occurrence after blennorrhagia, and that they are observed much more frequently as the sequelæ of superficial and deep venereal ulceration." All, as may be perceived, accord with those of our author as to the relative rarity of concealed chancres in proportion to blennorrhagic symptoms.

A chancre, having been treated according to the most approved principles, is supposed to be cured, and a blennorrhagia, being consecutive, is supposed to be the cause of the subsequent constitutional infection. Ought it not rather to be attributed to the previous chancre, for on what form of treatment can we absolutely depend to neutralize the syphilitic diathesis? M. Ricord professes that he knows not, and our own experience fully agrees with him. There are some practitioners who, having administered a stated dose for a certain number of days, believe their patients to be radically cured. M. Vidal very recently published his opinion, that with 110 pills, prepared according to the formula of Dupuytren, neither more nor less, you *get rid* of syphilis!

Our author expresses himself as being most tolerant with regard to the opinions of others, but begs to be excused from following in their belief, as he is in the daily habit of seeing many who have not only swallowed the 110 pills with religious faith, but even 150, and yet have returned to him not cured. Who, we would inquire, that has had much experience in syphilis, will not acknowledge that, even after the best directed treatment, such has been the result?

M. Ricord affirms that the immense majority of cases of blennorrhagia are simple and benign, but that there also exists a virulent blennorrhagia, the blennorrhagia being virulent when there exists a *concealed* chancre.

In the study of the diagnosis of a virulent blennorrhagia, two conditions are requisite; first, that it should be absolute; second, that it should be rational.

The absolute diagnosis can only be obtained by artificial inoculation. Whenever the inoculation of muco-pus furnished by a mucous membrane results in the characteristic pustule, we can affirm, no matter how long its duration may have been, that it is a virulent blennorrhagia, and that a chancre exists. Much care, however, is required in performing this experiment of inoculation, as there may be a simple blennorrhagia coëtaneous with a chancre (a frequent complication), and which would give rise to error if the muco-pus of the former only were inoculated. The length of standing of the disease should also be considered, for, when we come to study chancre, we shall find that the period of its virulent secretion is limited; and again, the source from which a chancre is derived will often give but little assistance in diagnosis, as the woman causing the infection in a man may be only the depository for the time being, without afterwards being herself affected.

The violence of a blennorrhagia has been made synonymous with its virulence.

The contrary, however, is the truth, for, as a general rule, the least violent and least painful blennorrhagia is the most virulent, being generally accompanied by a chancre. The duration of the discharge also should not be lost sight of, as the most rebellious are generally those not attendant on urethral chancre. The nature of the discharge is a valuable sign, for that depending upon chancre is more purulent than mucous, and is also generally sanious, the least pressure upon the urethra rendering this symptom more evident. To give to this symptom its full value, care should be taken that the patient has not used a caustic injection, that a foreign body has not been introduced into the urethra, that a vessel in the urethra

has not been ruptured by chordee, and that the matter mixed with blood has not been expelled with the last drops of urine, as this would be symptomatic of inflammation of the neck of the bladder.

Wedkind believed that he had found in the enlargement of the follicles, in the neighbourhood of the urethra, near the frenum, a sign of virulence; but this is simply a phlegmonoid condition, and independent of all other complications, the most important sign being found in the swellings along the course of the urethra, and especially in the balanitic region, which is the most frequent seat of chancre.

In the treatment of blennorrhagia there are some who, believing it to be syphilitic, make no distinction, but administer mercury in all cases. Hunter held this opinion. Another class believe it to be a mild syphilis, and prescribe, so to say, a demi-treatment. "Fatal error," says the author; "syphilis either exists or does not exist. If it does exist no half measures will be sufficient. How, then, should simple blennorrhagia be treated? Many objections have been urged against the abortive treatment. Away with them.

"Can it be denied that the accidents consequent upon a blennorrhagia seldom, if ever, exist until the end of the first week or beginning of the second, and most generally during the third? The abortive treatment prevents epididymitis and all other evils attendant on the course of the disease. In fine, it is the prophylactic treatment of these diseases that should be adopted; and, in despite of that ancient prejudice originated by Bell, it must be insisted that injections are most important in the abortive treatment, and, so far from giving rise to strictures of the urethra, they are its best preventive."

Observations on certain of the Diseases of Young Children. By CHARLES D. MEIGS, M. D., Professor of Midwifery, &c., in the Jefferson College. Philadelphia: Lea and Blanchard. 1850. 8vo., pp. 215.

WE have already had occasion to notice favourably several works from the pen of Dr. Meigs, all of which were characterized by acute observation, great fertility of resource, and sound practical instruction, but which also exhibited peculiarities that sometimes amuse, though rather shock a correct taste. The present work presents the same strange mixture with rather more startling innovations of language, and, we are bound in candour to say, with less of real value. It consists

of twelve chapters on, 1, diagnosis; 2, caput succedaneum; 3, inflamed eyes; 4, coryza; 5, bowel complaints; 6, jaundice; 7, dress; 8, cyanosis neonati; 9, respiratory diseases; 10, hooping cough; 11, laryngismus; 12, scarlatina.

The substance of the volume formed certain preliminary lectures delivered by the author to the class at Jefferson Medical College, in October, 1849, previously to the regular business of his professorship.

Dr. Meigs opens the question of diagnosis in infantile diseases with a direct denial of the popular prejudice, that these diseases are necessarily obscure, because the subjects of them are too young to explain their sensations. We quite agree with him, that "a knowledge of the diseases of childhood is not more difficult to obtain than that of the maladies of adult persons, because in either case, the medical man relies on his own observation, and not upon statements he receives;" the only difference being, that in the former case he must rely upon natural and not artificial language. The look, the expression of different organs, the attitude, the voice, the cry, &c., are all eloquent to an instructed mind. Into these points Dr. Meigs has entered pretty fully, and with discrimination; and also into the state of the infant before and after birth, with relation to its viability and to the asphyxia of new-born infants, inflammation of the umbilicus, &c. With regard to the latter, he observes:

> "Perhaps the best mode of treatment in such cases is to cover the inflamed part with pledgets of lint dipped in cold infusion of flaxseed or slippery elm [the bark of the *Ulmus fulva*], after taking the precaution to circumscribe the augmenting area of inflammation by producing a new and different irritation, in drawing around it the point of the nitrate pencil."

Dr. Meigs' remarks upon the caput succedaneum are rather vague: he mentions having seen a tumour on each parietal bone, which clearly could not have been caused by the usual pressure; this we have seen too. In all cases he is content with applying a cataplasm, and waiting. This, however, will not always answer, and we have found it much better to make a small opening.

There is nothing new, and less than there might have been of what is old, in the section upon inflammation of the eyes; a dimly lighted chamber, great cleanliness, lint dipped in cold water, or mucilage of linseed, sassafras, or slippery elm, with a collyrium of acetate of zinc, wine of opium, and rose water, are the remedies suggested.

Certain states of the nares, which, though trifling in themselves, may really be attended with serious symptoms, are very carefully and satisfactorily noticed :

" When one of the nostrils of a neonatus becomes stopped by dry phlegm, by crusts and scabs on the orifice, or by any foreign body detained within it, a certain degree of respiratory distress is the consequence, because the instinct of the child leads it to respire only by the nares and not by the mouth. Such respiratory distress is caused, partly by the lessened aeration of the blood, and partly by the fatigue or exhaustion consequent upon extraordinary exertion of the respiratory muscles. Under these circumstances, should the other nostril become obstructed, or wholly occluded, it will happen in many young children that they shall persist in their efforts to respire only by the obstructed nasal passages. In such a case, after making two, three, or four attempts to respire in vain, the infant starts forward, throws its hands wildly abroad, and, opening its mouth and throat, admits the air in a large stream into its lungs, and then immediately resumes its efforts to breathe through the obstructed nostrils again. Although temporary relief be thus afforded, it is possible that such imperfect and long-intermitted respiration will not suffice to aerate the blood, and that an impure current, partly oxygenated, partly carboniferous, in the brain, will at length lay the foundation of irregular innervations, putting the child's life into danger, and which, if continued to a certain extent, must bring it to its close."

The remedy is first to clean out the nostrils and then to apply oil to their mucous membrane. Dr. Meigs, indeed, prefers the " ointment of cucumbers " to any other oily application. Although in ordinary cases averse to the use of caps for infants, Dr. Meigs has found a flannel cap very serviceable in these affections.

In the chapter on jaundice, the author very decidedly enters his protest against the foolish and mischievous fashions in dress prevalent, not only in America, but in these countries, and advises high dresses and long sleeves, especially with delicate children. He lays great stress upon the diet of a jaundiced infant, and recommends as remedies an occasional emetic with alterative doses of mercury, and a small opiate if necessary; but he advances nothing new.

In addition, however, to objecting to the rejection of the cap for new-born infants, we cannot agree with our author, that, when in health and well clothed, children should be " sent out to walk or ride in all weathers." " To dress a child like a fantastic doll and shut it up," is of course a very foolish and injurious plan; but to send it out in all weathers, hail, rain, and snow, is only a few degrees less foolish.

The chapter on cyanosis neonatorum is the best in the book, although incumbered by much laboured explanation: our readers may have seen it before in "Obstetrics, the Science and the Art." Cyanosis, "whether local or general," our author believes to be "a degree of asphyxia of the parts exhibiting the phenomena. Blue hands from cold weather, blue finger-nails from ague, from cholera, from drunkenness, or etherization, is asphyxia of their parts severally. Asphyxia of the capillaries of the skin or of the extremities is not inconsistent with life; but asphyxia of the encephalic capillaries, when carried to a certain extent, is mortal. Mortal asphyxia is always so because the capillaries of the brain are the seats of the malady." The explanation of the occurrence of this asphyxia is given rather aphorismatically, as follows:

"The child is born with an open foramen ovale. But the foramen is provided with an operculum or valve. The valve, called the valve of Botalli, lies upon the left wall of the septum auricularum. When the valve is shut, the opening is closed. The lifting of the valve re-opens the aperture. If the valve be closed before the establishment of respiratory life, the child dies from the absence of oxygen in its brain, for the oxygen of the placenta cannot reach the brain by any other route." "As in uterine life aerated blood passes through the foramen, so, in the respiratory life, the carbonated blood, if any, passes through the opening to fill the left auricle. Whenever the left auricle is filled with venous blood, it is injected by the systemic ventricle into the brain and whole system. Such injections produce cyanosis."

Of this cyanosis children die, sometimes suddenly, sometimes after a longer interval, and in other cases they live and preserve the peculiar characteristics of the disease for years. The cure appeared to Dr. Meigs to consist in closing the communication between the right and left auricles; and, therefore, when a case occurred, he endeavoured to do this by placing the child, "which seemed to be nearly dead, upon a pillow, on its right side, the head and trunk being inclined upwards about twenty or thirty degrees." By this means the column of blood in the left auricle would naturally press upon and close the valve. "Upon placing it down in this manner, it became quiet, began to breathe more naturally, to acquire a better hue of the face, hands, and feet; until in a very short time, it was quite well again, and did well, having no further return of the attack of cyanosis neonati." Since then Dr. Meigs has not only succeeded in many cases himself, but his pupils and others who have followed his advice, have been equally

successful; and we agree with him that the credit of having first suggested the remedy is fairly his own.

There are two points in the treatment of croup worthy of attention; the first is the use of alum as an emetic, instead of tartarized antimony. Our author's testimony is decidedly in its favour, as being freer from risk :

"To a child under a year or two years of age, it is quite safe to exhibit a tea-spoonful of powdered alum, mixed with a similar quantity of honey. Such a dose may be safely repeated in from ten to twenty minutes, though it is very rare to find an instance in which vomiting is not produced within five minutes of the time of its exhibition. Children vomited by this medicine appear to me to recover very soon from the nausea, and without any signs of that exhaustion or relaxation that follows a vomiting produced by antimonial wine or emetic tartar."

We agree with the Professor that croup is one of the diseases in which there should be no hesitation about bleeding from a vein or by means of leeches, if we are called in at an early stage of the disease; but we think that he is disposed to overrate the benefits to be derived from tracheotomy at a later stage. It is true, he succeeded in one case, and so have others; but there have been so many failures, and it is so difficult to decide upon so serious an operation before the bronchi have participated in the disease, and so hopeless when they have, that the general opinion in these countries is unfavourable to its adoption.

We cannot conclude without suggesting most respectfully to Dr. Meigs the propriety of a little pruning of superfluous words, and of adopting a more homely and less pedantic phraseology. "New born infants" is not much longer than "neonati;" "treatment" than "therapy," &c.; and we think the older and simpler phrase is in much better taste. It is a pity that the writer of the most distinguished works on Obstetrics, in the United States, since the time of Dewees, should thus disfigure his really valuable communications. We trust that he will take this observation in good part, for there is no one more entitled to our respect, and none of our transatlantic brethren for whom we feel more.

On the Diseases of Women, including Diseases of Pregnancy and Childbed. By Fleetwood Churchill, M. D., &c. Third Edition. Dublin: Fannin and Co. 1850. Post 8vo., pp. 762.

In the volume before us Dr. Churchill has united two of his former works, that on "The Principal Diseases of Females," and that on "The Diseases of Pregnancy and Childbed." The most striking advantage resulting from this arrangement is of an economic character; for now the same amount of matter can be obtained at a little more than half its former cost, when dispersed into two separate volumes. It would be an injustice to the author, however, to confine our praise to this feature of the present publication, important though it is. In reality the present volume is an amended and enlarged edition of the two works alluded to; being the third edition of that on "The Principal Diseases of Females," and the second of that on "The Diseases of Pregnancy and Child-birth;" books long held in much esteem at home, and so highly appreciated by transatlantic readers, that the fifth united edition (such as is here produced for the first time) is now selling in America.

As a comprehensive manual for students, or a work of reference for practitioners, we only speak with common justice when we say that it surpasses any other that has ever issued on the same subject from the British press. On looking through its pages we find that the author has made many alterations and improvements, has inserted several new sections and chapters, and has introduced all the important information which recent researches have added to this department of medical science. We have only further to remark, that we think Dr. Churchill has done wisely in continuing to give particular reference to the writings of the various authors whose opinions he quotes; this adds little to the size of the book, but very materially to its value and utility. The reviews of the previous editions, given in former Numbers of this Journal, must plead our excuse for this short notice of the labours of an author whose valuable writings have so materially advanced the literary character of the Irish School of medicine.

Om Höftleden och Ledbrosken uti anatomiskt, pathologikst och chirurgiskt hänseende, jemte en kritisk Öfversigt öfver några bland Inflammations-lärans vigtigaste Punkter. Afhandling af CARL SANTESSON, M. D., Chirurgiæ Magister, Prosector vid Carolinska Med. Chirurgiska Institutet. (Med sex Plancher.) Stockholm: Norstedt & Söner. 1849. 8vo., pp. 272.

A Treatise on the Hip-joint and Articular Cartilages, with reference to their anatomical, pathological, and surgical Relations, together with a Critical Review of some of the most important Points of the Theory of Inflammation. By CHARLES SANTESSON, M. D., Master of Surgery, Demonstrator of Anatomy at the Royal Carolinean Medico-Chirurgical Institution of Stockholm.

THE work before us, published by Dr. Santesson, when a candidate for the chair of surgery at the Royal Carolinean Medico-Chirurgical Institution of Stockholm, and submitted at the election as a test of his qualification, is divided into six chapters, the first descanting at considerable length on the anatomy of the hip-joint; the second treating of the disease called "morbus coxæ senilis," for which he has proposed a new name, viz., "osphytis chronica;" the third on the subject of excision of the head of the femur; the fourth on the anatomy and physiology of the articular cartilages, particularly with reference to the morbid changes which may take place in them; the fifth giving a critical review of the principal questions regarding the theory of inflammation; and the sixth describing the diseases to which articular cartilages in general are liable, and dwelling on the importance of their study in relation to practical surgery.

Having devoted forty-eight pages to the description of the anatomy of the hip-joint, the author proceeds to inform us, in the commencement of his second chapter, that his object is not to present the reader with a systematic treatise on the diseases of this articulation, but that he intends his work merely as a contribution to one or two departments of its pathology which have been hitherto little known and little studied; he also adverts to the diseases of articular cartilages in general, and promises, if permitted, hereafter to pursue and extend these subjects, and to communicate the results he may obtain.

The abnormal changes which occur in the hip-joint he divides into three classes; the first containing congenital morbid deviations, whether they depend on arrested or faulty development, or arise from previous disease or from injury received during intra-uterine life. To the other two classes be-

long the changes which arise after birth: in one of them, (his second class), he places changes the results of accidental violence; and in the other, or third class, those which depend primarily on a morbid process in the articulation, excited into action by internal or external causes. The first two classes he lays aside altogether, "in consequence of the copiousness of the subject," and proposes to confine his inquiry exclusively to the last, in order that he may have space to delineate more fully, and with greater exactness, a form of disease of the hip to which it appears little attention has hitherto been paid in Sweden.

We think we cannot do better, in endeavouring to give some idea of his work, than quote largely from this part of his essay: and here, we may observe, he has adopted an opinion very generally prevalent, that the disease called morbus coxæ senilis is more common in Ireland than elsewhere; and he has with justice awarded to the Dublin School the merit of having done some service to mankind, by awakening attention to a chronic disease which heretofore has been over and over again confounded with scrofulous disease of the hip, sciatica, &c., and the anatomical characters of which have been so little known that, when met with in the dead body, specimens of the disease have been mistaken for examples of intra-capsular fracture united by bone[a]. Hereafter, such errors as these in anatomy or in diagnosis shall, we believe, happily, not be committed.

This chronic disease of the hip is, the author says, doubtless, originally dependent, in most cases, on inflammation and its consequences, and he proposes to designate it, until a suitable classification be obtained, "coxitis," or more critically, "osphytis," externa and interna, according as it attacks the external or internal parts of the articulation. But in our judgment the evils arising from the multiplication of terms are so numerous and obvious, that an entirely new name should, in order to justify its introduction, be wholly unobjectionable; and one decided objection to the term proposed by Dr. Santesson consists, we conceive, in the circumstance, that the Greek word ἡ ὀσφύς, from which it is derived, and which he translates by "hip," "loin," is much more commonly applied to signify the loins than the hip. Such etymological uncertainty is evidently calculated to confuse the reader, and should therefore be avoided[b].

[a] See Todd's Cyclopædia, vol. ii. p. 799, and Dublin Journal of Medical Science, First Series, vol. viii. p. 220.

[b] The only definition of the term ὀσφὺς, given in Parkhurst's Greek and

The author has, no doubt with some reason, objected to the term morbus coxæ senilis; but, while we admit this, we think it would have been candid in him to have referred to the words of Mr. Adams, who, from his later experience of this disease, thought proper to change the name he first gave it, to that of "chronic rheumatic arthritis of the hip"[a].

Were we to approve of the new name of osphytis, given by Dr. Santesson to the disease, as it affects the hip-joint, we should appeal to him to supply us with a special denomination for this same chronic disease when it makes its appearance in the shoulder, elbow, hands, &c. This, we imagine, would impose no small labour on the author, as some patients are so constitutionally affected by it that scarcely one articulation of the whole skeleton seems to have been exempted.

The disease evidently consists in an inflammation of the different structures of a joint, including generally the synovial, the fibro-synovial, and the cartilaginous tissues: in a word, it is an arthritis, and of a chronic nature, although Dr. Santesson, in a note to page 59 of his work, objects to the name "chronic rheumatic arthritis," and states that he considers the idea of rheumatism to be here quite misapplied; however, to us it plainly appears to present more of a rheumatic character than any other chronic arthritis we are acquainted with. Indeed, when the disease affects the wrists and hands, rendering the fingers nodose or knobby, it is popularly denominated rheumatic gout. The patient affected by this species of arthritis, whatever be the joint implicated, feels his pains influenced by atmospheric changes; therefore we do not see that the objection of the author to the term chronic *rheumatic* arthritis is well founded. We would ourselves prefer a more euphonious title for the disease, but we cannot discover a better

English Lexicon is "the loins of the human body, comprehending the five lower vertebræ of the back." Liddell and Scott translate it, "the hip, opposed to ὦμοι, the shoulders;" but add, as a second definition, "ὀσφῦς διπλῆ, the muscular parts of the small of the back divided by a furrow, the loins." Donnegan and also Giles give only "the loins." In Schrevelius' Lexicon, by Steele, Edinburgh, 1823, the definitions given are, "lumbus, ilia." And Turton, in his Medical Glossary, London, 1797, states the meaning of the word osphys (ὀσφυς), as simply "the loins." Castellus too, in his standard "Lexicon Medicum," translates the word "lumbus," and terms "lumbago" "ὀσφυος ἄλγημα."

[a] The words we allude to are as follows:—"The writer long ago, in his Clinical Lectures, gave the name of morbus coxæ senilis to the disease in question; but as he has *since* met with many instances of its occurring so early as the age of 30 or 40, he is *now* more disposed to substitute for this name that of *chronic rheumatic arthritis* of the hip-joint; and he considers it as the same disease precisely as he has elsewhere in the work" (Todd's Cyclopædia) "described as affecting the other articulations."

designation than "chronic rheumatic arthritis," whether we allude to it as affecting the hip-joint, or the shoulder, or any other articulation. This term in Dublin, we may say, is current with the profession; it is entered in the catalogues of our museums, and various communications regarding the disease have been made to the Pathological Society under this designation. Indeed, a small work has lately appeared in London, entitled "Notes on Chronic Rheumatic Arthritis," by Mr. Canton, and the essay contains many valuable cases of this disease, not merely affecting the hip, but also the articulations of the shoulder, and even of the vertebræ; so that on the whole we do not feel disposed to change the title we have in Dublin given to the disease for that of osphytis, proposed by Dr. Santesson, much less for that of myositis coxæ, suggested by Wernher.

Our author next passes to a history of the disease, giving as its synonymes the terms "morbus coxæ senilis," and "malum coxæ senile;" and, as his sketch gives some information which may be useful to those of our readers who may wish to investigate the subject further, we shall here give an abstract of it. Having alluded to Benjamin Bell's works, and to Dr. Smith's observations, published in the sixth volume of the First Series of this Journal, he remarks that the surgeons of Great Britain and Ireland, more particularly of the latter, where the disease appears to be more common than elsewhere, are most conversant with the subject. The museum of the Richmond Hospital, in Dublin, he continues, contains a great number of valuable specimens of the disease, not merely examples of it as it affects the hip-joint, but likewise as it manifests itself in all the other articulations. On the Continent, the best and most elegant [vackraste] preparations of the disease are to be found in Sandifort's Anatomical Museum, at Leyden. The Dupuytren Museum, at Paris, likewise contains an occasional valuable specimen of the pathological process in question.

The author next alludes to Mr. Adams' labours on the subject, and then remarks, that he is not aware that any French author has written on it. Wernher, of Giessen, was the first who made this form of disease known in Germany, and afterwards treated of it in detail. Subsequently, Schlegel and Schoemann, the latter in Schmidt's "Encyclopedie der gesammten Medicin," vol. iv., p. 493, *et seq.*, have written on this peculiar disease of the hip, but without making any addition to what was already known on the main points. Rokitansky has, in his "Handbuch der Pathologischen Anatomie," mentioned the

anatomical changes belonging to the disease, in treating of the abnormal conditions of the bones, which, according to him, distinguish the "genuine arthritis."

Under the head of "pathological anatomy of chronic osphytis, (1) changes in the soft parts of the hip-joint, (*b*) ligaments, fibro-cartilages, and synovial membrane," the author alludes, (p. 65) to the well-known absorption of the round ligament as the result of this disease, and the filling up of the depression in the bottom of the acetabulum, and also that on the head of the femur. He notices that the part of the synovial membrane which may be found remaining is thickened, villous, and highly vascular, sometimes forming around the neck of the thigh bone fringe-like prolongations of an intensely red colour, and velvety surface.

"Mr. Adams," he continues, "describes cases in which these productions were of a rounded and conical form, half an inch long, and two or three lines broad at their bases. They resembled much in form the long conical papillæ to be seen on the tongue and about the fauces of herbivorous quadrupeds; however, instead of being white and firm, they were soft and villous, and of an intensely red colour. In two cases, in which these fimbriæ existed, the line of the corona of the head of the femur was absorbed, and the different foveæ or depressions thus found were completely occupied by vascular fimbriæ. The villi and filaments of the synovial membrane in these examples passed immediately, and without any definite boundary, into the cartilage, which had been changed into a fibrous substance. These formations are evidently products of a chronic inflammation."

The author next mentions the changes which take place in the head and neck of the femur, the acetabulum, and pelvis; and having described in detail the causes and course of the disease, and reverted to its inflammatory nature, he quotes at length, and has thought it necessary to refute, Wernher's obviously untenable theory, that the commencement of the disease is always an inflammation of the muscles of the hip, a "myositis coxæ."

Dr. Santesson has nothing to add to what is already so well known as to the symptoms, prognosis, &c., of this disease; we shall therefore now proceed to advert to the account he has given of its treatment.

When the affection proceeds from a local cause, such as a fall, it requires perfect rest, combined with decidedly antiphlogistic measures, for the acute inflammation which follows on such an injury may easily pass into the chronic form under consideration. Repeated local bleedings around the joint, by means of

leeches or cupping, are peculiarly appropriate in such cases; the extent to which this plan is carried being modified, of course, according to the severity of the symptoms and the constitution and general state of health of the patient. The application to the part of a towel wrung out of cold water and covered with a dry sheet, and renewed every hour or half hour, has been found by the author to be especially useful, being more beneficial, more cleanly, and easier of application, than the various liniments recommended by most practitioners. In addition to these measures, the use of general tepid baths or vapour baths will be found very advantageous.

Where the disease has arisen out of the sequelæ of articular rheumatism, the local abstraction of blood and the employment of derivative measures become necessary. The internal treatment, too, must be adapted to circumstances. The author is of opinion that nauseating medicines in large doses, with, if required, the addition of rhubarb, are singularly efficacious. He likewise recommends a combination of calomel with the golden sulphuret of antimony, a form of medicine analogous to our Plummer's pill; as well as full doses of Dover's powder at night, and (in severe cases) even by day. The English, he states, employ colchicum and blue pill. The use of quina in large doses for the treatment of this disease has been recommended by the French pathologists, and the author adduces his own experience in proof of the efficacy of this mode of treatment. In the stiffness which accompanies the affection, the Finland baths, or Russian vapour baths, he considers to be very useful.

When the disease begins more gradually the treatment should be less active, not only because in such cases it seems to have little or no beneficial influence, but because it sometimes appears even to produce an injurious effect on the patient's general strength. Wernher, carrying out his view of the first origin of the disease being due to an inflammation in the muscles of the hip, recommends, in these cases also, local bleedings; the blood to be drawn from the parts where the muscles are found to be most tense, or give pain on motion or pressure. He lauds, moreover, a continued course of emollient narcotic cataplasms and local vapour baths, repeated several times a day. Mercurial and narcotic liniments he considers to be less efficacious, and he thinks it necessary to warn especially against the use of blisters, moxas, or the actual cautery, as they most frequently aggravate the evil by injuriously exciting to irritation the muscles which, according to his (Wernher's hypothesis) are principally affected. Dr. Santesson states that he has seen some

cases in which flying blisters, as well as caustic issues, were decidedly advantageous; although they did not effect a cure, they certainly palliated some of the worst symptoms. He is also in favour of the use of vinegar poultices, of Autenrieth's (tartar emetic) ointment, of liniment of caustic ammonia with tincture of cantharides, &c. Pearson's sulphuric acid liniment, prepared according to the following formula, he found particularly useful:—olive oil, an ounce and a-half; oil of turpentine, half an ounce; and concentrated sulphuric acid, from half a drachm to one drachm, or, for persons with more delicate skin, one to two drachms of dilute sulphuric acid: these must be mixed with care, and well shaken before use. A portion of the liniment is to be rubbed in, once, twice, or three times a day, according to circumstances; and the smeared part should afterwards be covered with lint. During the employment of all these means, it is especially necessary to keep the joint at rest, perfect quiet being one of the principal conditions necessary for amendment. Attention to this point alone does more than all the other means taken together, if motion be allowed. It is not, however, necessary that the patient should keep his bed; he may be dressed and lie on a bed or sofa.

Through the employment of these measures, modified according to the several indications which may arise in each case, a certain degree of mitigation of the symptoms will most generally be obtained, and the patient will be able to walk with the assistance of a crutch or stick; it is true his gait is crippled, the step of the affected limb is short, but motion is unaccompanied by pain. He feels the limb freer and easier [mera medgörligt]; its motions, particularly those of flexion and rotation, are allowed to a greater extent than before, and in general the grating friction sound is less remarkable. The shortening, however, remains undiminished. It must be confessed, also, that although these means may be thus far useful in some cases, there are many others in which no very decided advantage is derived from perseverance in them; and under such circumstances it is our duty to spare the patient the continued use of active measures, whose least evil may be their inutility. Pathological anatomy will certainly justify these views, and show how little can be expected from our efforts in this way. Our principal object should be to prevent a relapse, by directing the patient's attention to the necessity of sparing the motion of the affected limb as much as possible; and he must be careful never to lean upon it. In spite, however, of every care, the gradual shortening of the limb cannot be prevented so long as the morbid process in the hip continues, and it will

be advisable to acquaint the patient with the possibility of the occurrence of such a state. Should he, through any want of caution, over-exertion in walking, &c., have aggravated the disease, the author is aware of no simpler or more efficacious remedy than rest, and the application to the hip of the Gräfenberg water dressing before described.

In our experience, however, of the disease in this country, it is almost uniformly chronic, insidious in its attack, gets very slowly, but progressively, worse, and does not present those alternations of getting better and worse, noticed by the author.

At the close of the chapter on this peculiar affection Dr. Santesson adduces in full, as an illustration of the symptoms, the case of a patient who had been under Mr. Adams' care in the Richmond Hospital, and has accompanied it with a full-length figure, copied from Todd's Cyclopædia, whence also the case is taken. If the author had studied this case in all its details, and compared it with those, no doubt, to be met with in Sweden, we think he would not have spoken so freely of the improvement the patient experiences (even under the most judicious treatment) in the motions of rotation, flexion, and abduction; because, when this chronic disease is fully established, these movements of the hip-joint are extremely limited. Indeed, most of the movements in these cases, although *apparently* taking place in the hip-joint itself, are *really* movements of the articulations of the lumbar vertebræ, which the pelvis follows. A patient labouring under this disease can ride on horseback, showing that a certain degree of abduction of the thigh is possible; but in mounting the horse, to enable him to throw the affected leg over the back of the animal, we always observe him lean down so as to make the axis of his body nearly horizontal, in consequence of the stiffness of the hip-joint. In the case he has copied, it is distinctly mentioned, "that the patient cannot, under any circumstances, flex the thigh on the abdomen, so that when he assumes the sitting posture he is obliged to place himself forwards, on the very edge of the seat, the right thigh remaining in the same line as the axis of the trunk, the leg usually flexed, and placed under the chair or across behind the other, &c. &c. He has scarcely any motion in the hip-joint." The *apparent* shortening of the limb, when he rests on the sound one, arises from the lumbar vertebræ being much curved to the opposite side, and the pelvis being elevated in the affected side, while the real shortening, ascertained by accurate measurement, amounts only to half an inch. "A little abduction is admitted; rotation and

flexion occur just to a sufficient degree to show that no true bony anchylosis exists."

Amongst the therapeutic means to be had recourse to for the cure or alleviation of this disease, the author has omitted to mention cod-liver oil, lauded by Dr. Bennett in the treatment of chronic rheumatic affections, and strongly recommended by Sir Benjamin Brodie, in the latest edition of his work on "Diseases of the Joints," as highly deserving of trial. In our opinion, the propriety of his recommendation of absolute rest of the affected part, which we know to be so indispensable in the strumous affection of the hip-joint, is very questionable, unless it be confined to the very earliest period. The disease is generally advanced when the medical man is consulted, and under such circumstances, we think that absolute rest of the joint, without promising to be of any real utility, must prove highly injurious to the general health; at least, such are the conclusions that our experience of the disease would lead us to.

We have already stated that Dr. Santesson has promised to take up this subject again, in a new edition, and these observations may, we hope, induce him to study the symptoms of the disease as they present themselves in nature, and report the result to the profession. We trust he will accomplish his promise as faithfully as an eminent writer on the diseases of the joints, who, in 1812, made a similar promise, and afterwards, particularly in the edition of 1850, so admirably redeemed it[a].

On the whole, we consider Dr. Santesson's work to be highly creditable to the surgical literature of Sweden, and we hope, on a future occasion, to bring before our readers the consideration of some important questions discussed in other parts of the volume. The work itself is neatly got up, being printed in good, clear, Roman type, and illustrated by six admirably executed plates.

On Fatty Diseases of the Heart. By RICHARD QUAIN, M. D., Assistant-Physician to the Hospital for Consumption and Diseases of the Chest. London: C. and J. Adlard. 1850. Pp. 76 (Reprinted from the thirty-third volume of the Medico-Chirurgical Transactions of London).

THE literature of fatty accumulations and degenerations in animal tissues is of comparatively recent date. In the works of

[a] Pathological and Surgical Observations on the Diseases of the Joints. By Sir B. C. Brodie, Bart. London: 5th edition, 1850.

some of the ancient writers we find cases recorded in which remarkable hypertrophy of the adipose tissue existed, and there is little doubt that many of the injurious consequences produced by the predominance of fat in the system were known to them, more especially its influence in retarding and supplanting the growth of muscle, and in producing general hebetude of the mental and corporeal energies, and that diminished power of resistance which renders the body more prone than usual to various diseases, and even to sudden death. The want, however, of proper appliances, before the discovery of the microscope and the extension of chemical analysis, prevented the older authors from discovering that, besides the superinduction of fat upon other tissues to their detriment, an actual conversion of many of these tissues into adipose matter does occur during life.

In the works of Haller we perceive some of the earliest traces of the adipification of muscular structure noticed as occurring when the voluntary muscles were paralysed or long disused, especially in aged persons; but we are indebted to Vicq d'Azyr for the first case of this nature published in detail. This anatomist, while examining the body of an old man brought into his dissecting-room, discovered that remarkable sebaceous degeneration existed in the muscles of the lower extremity, so that scarcely a vestige of their original structure remained. In commenting upon the case he observes, that the fat was not deposited between the laminæ of the fibres, "mais entre les élémens de la fibre elle-même." Most persons who have been long conversant with anatomical investigations have met with similar instances. In the ninth volume of the former Series of this Journal, Professor R. W. Smith has cited two cases which were seen by him; in one, "the muscles of the external iliac fossa were removed, and their place occupied by true adipose tissue." In the other, a case of varus, the muscles of the sole of the foot were converted into fat. An interesting example of the same kind is described by Mr. Hallett, in the Edinburgh Medical and Surgical Journal for April, 1849. Similar deteriorations occur in other animals; fatty degeneration was discovered in the muscles of a paralysed sheep by Dr. Vaughan, of London, in the year 1813; and though the discoverer's quaint description excited not a little ridicule among the reviewers of the day, the importance of the fact was fully recognized by Dr. Andrew Duncan, of Edinburgh, in his account of a case of fatty degeneration of the heart, published in the year 1816, the first example of the kind publicly noticed in this country. We regret, however, that the value of many of the early cases

of fatty degeneration on record is lessened from the want of microscopical examination.

The author of the highly interesting treatise now before us is disposed to regard the changes found to exist in adipification of the voluntary muscles as different from true fatty degeneration of the heart. From his microscopic observations it would appear, "that the tendency of voluntary muscles is to degenerate into a fibrous tissue mixed with fat, rather than into granular fatty matter." He admits, however, that his examinations have extended only to paralysed muscles, and that "in the flabby muscles of scurvy, or other diseases of mal-nutrition," analogous changes may be found.

An important question, which arises from the degeneration of muscular structure found in the heart, is, whether "the molecular fatty matter, which exists in the fibre, is the effect of a chemical and physical change, or the result of the processes which we call vital." There are many reasons for believing that it is a conversion of texture. Thus we know that when muscular flesh is exposed, after death, to peculiar agencies, it undergoes a chemical change into fat. It has certainly been supposed that adipocire may be produced from the persistence of the fatty ingredients after the removal of the muscular fibre by decomposition; but a sufficient quantity of fat does not exist, in such cases, to explain the change, without involving also the fibrin. Brande has noticed the artificial formation of adipocire from dilute nitric acid acting upon albumen; and Wurtz has obtained butyric acid from the decomposition of fibrin in the open air. Dr. Quain cites, in confirmation of these statements, a remarkable circumstance which occurred to himself. He placed in weak spirit and water the healthy heart of a child, who had died from the effects of a severe burn, and upon examining it, in a few weeks afterwards, it presented "the most marked and universal characters of true fatty degeneration." If this example can be depended upon, it would be decisive of the conversion of muscular tissue into fatty elements. Still it would be well to test, by further experiment, whether it be a circumstance of constant occurrence, and if not, whether any peculiarity in the mode of death could contribute to the change in the example adduced.

As it appears from the foregoing reasons that fibrin can be converted into fatty matters when free from any vital influence, the next point to be determined is, whether analogous changes may not take place in the body during life. Rokitansky, in his valuable work, affords us very strong grounds for this opinion. He shows that fat is found in various situa-

tions where it could not be regarded as a deposition from the blood, as no vascular communication exists. Thus it has been found in tubercle, in masses of effused fibrin, in the walls of arteries, in cancerous masses, &c.; and in these instances it is identical with the granular fatty matter found in degenerated muscular fibre. Rokitansky proceeds to argue that an actual conversion of tissues into fat is almost certain, for these reasons:— First, it supplants structures into whose composition it could not have entered in the injuriously large quantities in which it is found to occur; secondly, it exists in places where it is impossible that it could have been deposited by the vascular systems, either from the non-existence of vessels or their great distance; and thirdly, because the occurrence of this fat is accompanied by a complete metamorphosis (usually a disintegration) of the structures in question. These reasons, combined with the fact that like changes may occur out of the body, and thus beyond the influences of nutrition, would seem conclusive that the true fatty degeneration is not a blood deposit, but a consequence of the impairment or withdrawal of the vital power, the textures affected succumbing under the surrounding physical and chemical agencies. Mr. Paget, in his important course of lectures, supports the same opinion, "that the fat in these cases is really not a deposit in the cells, put into them from without, but one of the products of the change in their own contents."

That in these cases some anomaly exists in the constitution of the blood is for many reasons highly probable. The formation of fibrin for the repair of the system seems unusually difficult, the effete matter being carried away by the usual channels, and an inferior tissue taking its place. There appears also an excess of free oil at times in the blood, from some imperfection in the assimilating process. Where the defect lies is not, however, so manifest. Perhaps, as the pancreatic secretion exerts a peculiar influence in rendering oily substances capable of amalgamation with the blood, we should look to that organ as in fault when the oil is not in combination with the fibrinous and albuminous ingredients of that fluid. If this be reasonable we should expect to find in these cases some change in that organ sufficient to alter its secretion in quantity or quality, and its known liability to fatty degeneration would favour the supposition. It is certainly not a little singular that in the recorded cases of these diseases, the state of the pancreas has been so rarely examined. The liver has received a greater share of attention, the existence of a milky state of the serum of the blood drawn in cases of acute hepatitis, having been long since

noticed by Trail to proceed from a great increase of oily matters, which were not worked off in consequence of the injured functions of that organ. The co-existence also of fatty liver with a fatty heart has been sufficiently frequent, especially in phthisical cases, to render in each instance a knowledge of its state desirable.

Among the many varieties of fatty degeneration, none have awakened more interest among modern pathologists than fatty diseases of the heart, from the importance of this organ, and the dangerous consequences that result when it is affected. The sebaceous degeneration of an ordinary muscle, or a partial fatty change in a glandular organ, may impair a function, but decay of the tissue of the heart must affect the contracting power of the great motor agent of the system. Dr. Quain has given us, in a condensed form, the results arrived at upon these diseases by other inquirers, combined with the fruits of his own interesting researches. We are happy to find that he pays a well-deserved tribute to the zeal of the Dublin school in pursuing this subject, and that he draws largely from the writings of Cheyne, Adams, Smith, Townsend, Stokes, H. Kennedy, Bellingham, and others.

One of the first points considered by the author is the determining what constitutes fatty diseases of the heart; and certainly much misconception has arisen from the arbitrary divisions followed by different writers. Thus we find some contending for two, and others for three varieties. Laennec, to whom we owe the name and the first clear distinction of sebaceous diseases of the heart, distinguishes one form as simply an accumulation of fat about the heart, not merely between the pericardium and muscular walls, but penetrating deeply between its fibres; the other form he defines as an actual conversion of the muscular substance into fat. Rokitansky, who has thrown so much light upon this subject, describes three forms, viz., first, excessive accumulation on the surface; second, intrusion of fat between the fibres, amounting even to *apparent* transformation of them, termed by him fatty metamorphosis; and a third form, first described by him, in which "the fat does not accumulate in masses," as in the other forms, "there being no fat vesicles enclosed within fasciculi of areolar tissue, but in granules imbedded among the primitive fibres of the heart's muscles." Mr. Paget and Dr. Ormerod also give a threefold division, which we may briefly designate as, 1st, fatty accumulation; 2nd, Laennec's second form, partial deposition, in place of, not in addition to, the proper structure; 3rd, true muscular degeneration. Mr. Paget has discovered that in this form

not only is the fatty matter external to the sarcolemma, as Rokitansky thought, but that it is also within the fibril, the oil-globules coalescing gradually until they occupy nearly its whole tissue. Dr. Quain admits but two forms; in the first, termed by him fatty growth on the heart, "the fat, composed of large cells containing oil, identical with the fat found in other parts of the body, grows upon and extends over the surface of the heart; it then encroaches on and insinuates itself between the muscular fibres, in some cases to such an extent as to completely conceal them when the examination is made with the unassisted eye." Under this head, Dr. Quain seems to combine Rokitansky's two first forms. His second form is the true fatty degeneration, in which "a fatty matter, composed of granules and small oil-globules, occupies and fills the sheath of what was previously muscular fibre." These two states are succinctly described by Vogel; the one consisting of fat morbidly formed, or an increased deposition of normal fat, improper to the place; the other of abnormal fat, or altogether improper, both the contents and the structure differing from the ordinary type.

In examining more closely the first of these forms, we find a true hypertrophy of the adipose tissue, the contents of the cells being vesicular fat. As this substance extends, the muscular structure yields place and becomes wasted, constituting what Mr. Paget happily terms an "atrophy by decrease of tissue." In this form the fibre wastes and dwindles, with little or no change of its essential texture, save that its elements are gradually carried off from the system, probably in the form of urea, without being renewed. Thus, the habit of body which promotes hypertrophy of the adipose tissue involves an atrophy of the muscular, the balance being destroyed. It is rather difficult to fix the limit beyond which the heart should be be called fat, as there are few hearts in which some of this substance is not found, especially at the base and in the track of the coronary arteries; and as age advances, we often find an increased growth without any perceptible injury to the health. In persons affected with general obesity, it is common to find distinct accumulation. The able researches of Dr. Chambers on this part of the subject are noticed in the review of his work in our present Number. The effects of a mere growth on the muscular parietes must impair the energy of the organ by the pressure it exerts and the inertia of its mass, while in those more advanced stages in which, like a parasitic agent, fat entwines itself round the muscular fibre, drawing away its nutriment, we have no reason to doubt that it seriously impairs its vigour,

disabling the heart from overcoming any extraordinary impediment in the circulation, and thus causing sudden death. In some of the highest examples of this kind, the muscular texture seems almost wholly removed, and replaced by a mass of fat; and a doubt occurs in such cases how the ventricles can contract, but a close examination with the microscope will not fail to detect muscular fibres between the striæ of fat, as Dr. Quain has observed, "retaining their organization, but their direction being more or less modified or distorted."

We now come to the true degeneration of the heart, designated by Rokitansky a false hypertrophy of adipose matter, being, not an addition, but a change into molecular fat. The condition to which the muscle is reduced is, like the former, a state of atrophy which Mr. Paget distinguishes from that previously described, by the term "atrophy by degeneration of tissue." As this state is preceded by change of texture, it constitutes one of Rokitansky's "secondary atrophies." The microscopic characters, by which alone the disease can be recognised, are clearly laid down by our author. These are a disappearance of the transverse striæ of the fibres, and the appearance of numerous black dots, evidently within the fibre itself, which increase in size and frequency as the disease extends. In parts much affected, these black dots enlarge and become transparent in their centre, from their oily contents. When there is a large number of them, the muscle exhibits a confused appearance, and the diseased fibre becomes friable, and loses its elastic properties, till at last its tissue is but a congeries of oil-globules. The changes produced in the nuclei of the cells have been well described by Mr. Paget. He observes, that the healthy fibres of the heart display, after immersion in acetic acid, a succession of nuclei at nearly equal distances from each other, and peculiar to the heart-fibres. In the degenerated fibre in its early stage, the outlines of the nuclei look dim and lose their colour; and as the disease advances, they altogether disappear, a circumstance which does not occur in the atrophy with mere decrease. As it is "nearly certain that the nucleus, whether of the fibre or the cell, is the chief seat or source of formative, reproductive, and secretive power," the failure of the nucleus would indicate the degeneration of the cell. He also states, as his opinion, "that the elements of the nuclei become transformed into oily matter." The contents of the cells are known to be fatty by the action of ether and their property of refracting light. It is curious that, in this form, the left ventricle is more usually affected, while the right is more frequently the subject of

fatty growth. Dr. Ormerod, who has examined a large number of cases, states that he has not seen the auricles engaged.

Of the present form of degeneration, Dr. Quain describes as two species what others consider as distinct forms, being, according to him, "fundamentally the same, and differing only in extent and degree." In the first, a small portion only of the heart is affected, but this is in its highest degree; in the other "a greater extent of the heart may become diseased, but in a less degree," such as the pale, flabby heart described as granular degeneration of the organ, in all of which cases examined by the writer fatty degeneration was found. The first of these varieties he refers to a local modification of nutrition, such as obstruction of the coronary arteries; the second, to a more extended lesion of the nutritive functions. In neither is the existence of obesity, either of the system or of the organ, an essential point, as it may or may not co-exist with these states: it is, we believe, more frequently found in persons worn down by diseases of an exhausting nature. As to the sensible qualities, Laennec has well shown that the parts engaged have lost their natural red colour, which is replaced by a pale yellow tint, like that of a dead leaf. The consistence also varies, the tissue becoming soft, so that the finger can easily break it down. Hence, to sum up, we may say that pale discoloration, softness, friability, and the altered state of the fibre render the disease sufficiently obvious.

In the series of cases given by Dr. Quain, he endeavours to establish a cause for the development of fatty diseases of the heart in either a local or a general impairment of nutrition. In twenty-five of seventy-five cases given by him, the coronary arteries were diseased, either by ossification or obstruction. Without altogether denying the connexion between fatty disease and the local cause assigned by him, and which has also been found to exist in sebaceous degeneration of muscles in other parts of the body—for example, in the case given by Vicq d'Azyr, noticed before,—we would observe, that the very condition of the artery itself implies the pre-existence of some general disturbance of the system, probably from the constituents of the blood not being in a normal state. It would seem doubtful from this, whether fatty degeneration should be regarded as the effect of this state of the arteries, or a co-existing condition, or even prior to it in point of time It is not rare to find fatty degeneration without a change in the arteries; and on the other hand, ossification of these without fatty deposit. Still the concurrence of both states in so large a proportion of cases

deserves consideration; and a fact noticed by Mr. Swan would seem to favour the opinion. He found that the coronary arteries want the usual free anastomosis, one not being readily injected from the other; hence, when one is obstructed, the deficiency cannot be compensated by the other. The previous occurrence of disease of the outer or inner lining membrane in some of the cases of fatty heart would also favour the opinion of the effect of local causation.

The diagnosis of fatty diseases of the heart is represented by the author as more easy than we fear is the case. We admit, however, that a certain assemblage of symptoms, combined with the physical signs which we shall notice, renders the diagnosis highly probable. Dr. Latham justly observes that "there is no sure diagnosis of the fat heart before dilatation occurs, then extent of dulness on percussion, without valvular murmur, a feeble fluttering movement of the organ, felt even beyond the limits of the præcordial region, and a fatty habit of body, lead us to argue indirectly upon its existence." Dr. Hope states that the signs perceived by him were, first, diminution of the sounds, especially the first; secondly, irregular pulse, without valvular disease; thirdly, oppression or even pain in the præcordial region, with general signs of a retarded circulation, producing cerebral, hepatic, or other congestions. We should suspect *a priori* a weakened first sound, from feeble contraction of the ventricles, when the muscular walls are replaced by fat, just as Dr. Stokes has shown that, when the cohesive power of the heart is impaired in typhus fever, a weakened impulse and a diminution or loss of the systolic sound occurs. But Rokitansky proves that in certain cases a murmur might be heard, namely, when the papillary muscles are diseased; in such a case the valves would not act perfectly, their tension being feebly performed. We find also that none of the writers upon these diseases profess to diagnose one form from the other. In addition to these indications, the pulse exhibits some important peculiarity, either in point of strength, frequency, or rhythm, being commonly weak, slow, and irregular. In the class of symptoms may be remarked syncope, occasional attacks of coma (as noticed first by Mr. Adams in his valuable Memoir), dyspnœa from slight causes, and pain. Dr. Quain has given a valuable synopsis of his cases, well deserving perusal, in which he exhibits in a statistical form the relative frequency of occurrence of each symptom. We should not omit to mention a new help to the diagnosis, if Mr. Canton's statement can be borne out, in the existence of the arcus adiposus senilis as an accompaniment of fatty heart. In his lectures, published in

the Lancet, he asserts:—"I have in no instance found this senile arc, when well developed, unaccompanied by fatty degeneration of the heart. The ocular muscles have always been more or less in the same condition, and the extent of degeneracy in them and in the heart has appeared to me to bear a relation to the degree to which the cornea has been invaded by the deposit." When, however, the arcus adiposus occurs before the age of forty, he does not speak of it with equal confidence. It is plain that, if the above be supported by further observation, a pathognomonic sign of fatty diseases of the heart will be no longer wanting.

As to the cause of death in these diseases, it is frequently sudden, either from rupture or syncope. Dr. Quain states that in twenty-five cases out of sixty-eight rupture ensued; and in three-fourths of these it occurred in the left ventricle.

The treatment of these diseases is the least satisfactory part of our author's work, though, we fear, from causes not under his control. He dwells emphatically upon that important principle in therapeutics, not to do harm by over-anxiety about a cure. He gives a useful caution upon the risk arising from large doses of narcotic and sedative medicines, as occasionally sudden death has followed their administration. Chloroform is positively contra-indicated in these affections. In the deaths which have occurred from the inhalation of this agent, we regret that the heart has not been microscopically examined. Over-exercise, by fatiguing the heart, is equally injurious. We cannot but think, however, that Dr. Quain rather underrates the power of medicines in these cases. That one of the forms, viz., fatty growth, can not unfrequently be kept in abeyance by a regular and sparing regimen, abstinence from oily food, moderate sleep, and much exercise of a gentle kind, is highly probable from experience. The use of the liquor potassæ, combined with bitter tonics, has, in the hands of Dr. Hope and others, been attended with the best effects; and cold sponging of the body, with sedulous friction, is not without benefit in removing the sebaceous coating from the skin. According as the general obesity of the system yielded in these cases, the heart seemed to recover tone. As to the more serious form of degeneration, as it generally occurs late in life, it too often seems an index which points unerringly to that bourne to which all must sooner or later arrive.

We have thus completed our review of this excellent little Treatise, from the perusal of which we have derived both profit and pleasure. It contains, in a small space, a large fund of information upon a class of diseases heretofore little explored, and

communicated in a pleasing style. We hope soon again to meet our author in the literary field, and as the present subject is evidently a congenial one, having, he says, occupied his thoughts for years, we trust that he will continue his interesting researches upon the points still requiring elucidation.

A Treatise on the Etiology, Pathology, and Treatment of Congenital Dislocations of the Head of the Femur. Illustrated with Plates. By JOHN MURRAY CARNOCHAN, M.D., Lecturer on Operative Surgery with Surgical and Pathological Anatomy, &c. &c. New York: S. S. and W. Wood. London: Thomas Delf, 1850. Royal 8vo. pp. 235.

THE remarkable affection of the hip-joint, which has been termed congenital, or "original luxation" by the continental surgeons, does not appear to have fully attracted the attention of the profession until the publication of Dupuytren's memoir upon the subject, in 1826. Since then, however, this peculiar malformation has received a considerable share of notice, and several examples of it have been, from time to time, recorded in various periodicals, more especially by the surgeons of Dublin. The treatise of Dr. Carnochan, however, is, we believe, the first monograph that has appeared on the subject in the English language, and contains an elaborate, but clear and lucid history of the symptoms, diagnosis, and pathology of this singular deformity. As we do not purpose analysing the work, an attentive perusal of which will amply repay the reader, we shall proceed to make some extracts from it, and comment on them as we proceed.

The following is the author's description of the symptoms present in cases of double congenital luxation of the femur upon the ilium:

"Upon viewing an adult person while in the erect posture, affected with this kind of double luxation of the femur upon the ilium, the curvature forwards of the lumbar region, and the convexity which the anterior wall of the abdomen presents, are apt to be among the first characteristic features of the disease which attract the attention of the surgeon. The pubic region appears to be tilted forwards and downwards, while the lower part of the trunk appears to have sunk down between the upper portion of the thighs; and this last circumstance, which actually takes place on account of the ascent of the ossa femorum, gives to the arms the semblance of being relatively too long, the extremities of the fingers ranging sometimes nearly on a level with the upper margin of the patellæ.

"Both of the great trochanters project abnormally, and are seen to have mounted considerably higher, so as to be situated nearer than is natural to the crests of the ilia, forming, with the retracted muscles which surround them, an unusual eminence, somewhat rounded on each side, at the superior and lateral part of the hip, while the lower and posterior portion of the nates is generally flatter than in the healthy condition of this region. The tuberosities of the ischia, carried outwards and more apart from each other, are denuded of muscular tissue, and covered only by the integuments.

"The fold in the groins is deeper, its direction less transverse and more vertical, and the usual niche between the buttocks and the thighs is placed higher, and more curved outwardly than it ordinarily is.

"The thighs sometimes retain their normal direction; at other times they take an oblique direction from above downwards and inwards, forming with the leg, at the femoro-tibial junction, an angle obtuse outwardly, while the knee presents internally an unusually acute angular aspect.

"As a consequence of this ascent, the psoas magnus and iliacus internus muscles of either side are put upon the stretch, and draw forwards the lumbar and lower dorsal vertebræ, and thus in the most marked degree can be seen the unnatural excurvation of the loins, with the corresponding exaggerated convexity of the anterior region of the abdominal parietes. Dupuytren says, "*ils ne touchent le sol que par la pointe des pieds.*" Observation, however, goes to contradict this assertion of the celebrated French surgeon. It would seem, in fact, that in the passive erect attitude, the patient can rest fully upon the soles of both feet; but, while the heel is descending to the gound, the lumbar region becomes still more incurved, owing to the increased traction then exercised on both sides by the tendons of the psoas magnus and the iliacus internus.

"One of the most characteristic differential signs of congenital dislocation of the head of the femur upon the dorsum ilii, is the disappearance, as soon as the patient is placed horizontally on the back, of most of the symptoms observable to the eye, when he is standing in the erect posture. The superincumbent weight of the trunk is then removed, and the muscles around the articulation now permit the great trochanters to descend to a nearly natural position; and as the small trochanters also approach their normal situation, the psoæ and internal iliac muscles becomes relaxed, and thus the curvature of the loins, and the corresponding convexity of the abdomen anteriorly, become diminished or effaced.

"By the aid of manual examination, signs are discovered not less worthy of note than those which are observed by mere inspection. If traction upon the limb be exercised, so as to act from above downwards, the limb becomes elongated, the head of the femur descends, the great trochanter becomes more separated from the crest of the ilium, and the projection they previously formed is found to have diminished; while, on the contrary, if force in an opposite direc-

tion is applied, that is, from below upwards, the head of the femur does not meet with resistance at the natural locality of the acetabulum, but mounts with facility to its abnormal position upon the dorsum ilii. The evidences of this symptom have been denied, and they have been attributed to a want of proper precaution in fixing the pelvis, while the traction was made upon one side; but in those cases where the dislocation exists on both sides, both limbs can be made to descend at the same time, and often to the same extent, when they are both simultaneously pulled upon. The only exception to this symptom occurring, is when the head of the femur has escaped from the natural capsule in which it was originally enclosed, and a new socket has been formed upon the dorsum of the ilium.

"An adult person labouring under the effects of dislocation of the heads of both femurs presents peculiarities in his gait during the diversified efforts of using the inferior extremities, which are not to be met with in any variety of lameness resulting from the other maladies occurring at the hip-joint. In walking, owing to the want of fixedness of the heads of the femurs, and the displacement which they must undergo of alternate depression and elevation, according as the weight of the body is transferred from one inferior member to the other, and also owing to the strain which is put upon the psoas and the internal iliac muscles upon the side where, for the moment, the weight of the trunk is thrown, a kind of double lameness is produced, somewhat resembling the hobbling motion of the duck. 'The subjects so affected, when about to commence walking, are seen to elevate themselves upon the point of the feet, to incline the superior part of the trunk towards the member which is about to support the weight of the body, and to lift the other with an effort, in order to bring it forward in advance. At this moment one of the great trochanters—that which corresponds to the column of sustentation—appears to become approximated to the crest of the ilium in a greater degree than while standing upon both feet. From this mobility in the vertical direction, oscillations of the trunk take place, which render the walk as inconvenient as ungraceful. These oscillations are often accompanied by a crepitating sound loud enough to be heard at a distance of several paces.'

"Contrary to what might have been anticipated, the effects resulting from the abnormal condition of the heads of the femurs, after they have lost their natural suport at the cotyloid cavity, and have mounted on the dorsa of the ilia, are less observable during the acts of running, leaping, dancing, &c., than during simple or slow progression. This can be accounted for, by the energetic contraction of the muscles surrounding the hip-joints retaining the heads of the femurs in a more fixed position during these quick movements, and by the rapid transfer of the weight of the trunk from one extremity to the other, which does not allow time enough for the heads of the femurs—thus somewhat solidly held by the muscles—to pass through their accustomed range along the external surface of the iliac bones. Protracted locomotion, however, of any kind, is not

borne well by individuals thus affected. The strain upon the muscles, consequent upon their change of direction and perverted action, the friction of the displaced heads of the femurs upon the ilia, the constant efforts kept up in balancing the body during the acts of progression, do not fail, if long continued, to produce the sensation of fatigue and pain.

"As regards the isolated movements, which can be produced at the ilio-femoral articulation thus affected, by imparting motion to it through the inferior extremity, we find that rotation can be performed without much impediment. Extension and adduction are executed with facility; but the limb can undergo abduction only to a slight extent. Flexion can be produced with great ease, and some instances are related where the limb could be made to touch the anterior part of the shoulder.

"It should be recollected, in reference to the diagnosis of this displacement of the hip-joint, that these various movements are not accompanied by pain, when moderation and not more than the requisite force is used in the examinations of the functions of the joint."

The author then describes the appearances in cases in which the luxation is confined to one side, but we need not here dwell upon them, as the general signs are very similar to those observed in cases of the double luxation. We may, however, remark, that he has not added much to the knowledge we already possessed; indeed the admirable memoir of Dupuytren, already referred to, did not leave room for much addition to the symptomatology of this remarkable malformation.

The pathology of the affection is very fully described in the seventh chapter; and from having had repeated opportunities of investigating post mortem cases of congenital luxation of the hip-joint, we can safely say, that the author's account of its anatomical characters clearly evince that he has observed them with great care and accuracy, as the following extracts will show:

"The morbid appearances to be met with in this luxation, on autopsic examination, vary, according to the age of the individual, and to the extent of the alterations which may have occurred in the tissues at, or in contiguity to the ilio-femoral articulation; but there are pathological characters which are common, amid the numerous changes which take place in the ligamentous and osseous structures of the joint, as well as in the soft parts by which it is surrounded.

"If the examination of this displacement be made during the fœtal period, or when extra-uterine life has been of short duration, the cotyloid cavity is found to be but little altered in its normal shape and dimensions, and to retain the capacity of receiving the head of the femur. The period of life at which the cotyloid cavity begins to assume an alteration of shape and dimensions is not the

same in all cases; it is probable, however, that beyond the twelfth or fourteenth year of age, the changes which this cavity has undergone have so far destroyed the normal relations of the joint, that reciprocal adaptation would be impossible.

"The acetabulum, surmounted by its fibrous border, at the earlier periods of this displacement, is generally found to present a depression on the superior and posterior part of its margin.

"The head of the femur now rests upon the margin of the acetabulum, or upon the ilium near its circumference, and presents but little deformity, retaining its hemispherical appearance, except upon its inner aspect, where it is sometimes flattened, from resting upon the ilium.

"The capsular ligament is elongated, as also the ligamentum teres; the structural integrity of both, however, is still maintained, and the capsule at this early period has been said to resemble an hour-glass, large at its pelvic and femoral attachments, and small at its centre. The capsule is put upon the stretch by the ascent of the head of the femur, which is still kept from direct contact with the external surface of the os ilium by an intervening layer of the capsule."

"The separation between the acetabulum and the head of the femur becomes gradually greater, owing to the progressive ascent of the latter upon the ilium."

"THE COTYLOID CAVITY, in the progress of the affection, tends to become contracted, and to assume an oval or even a triangular shape, approximating, as it were, to the primitive form of the acetabulum during fœtal life, before its three component parts have arrived at the period of osseous consolidation. The acetabulum remains sometimes, however, nearly circular, and presents upon its upper semi-circumference a depression of a somewhat crescentic form, which allows the head of the femur to pass to and fro from the dorsum of the ilium into its original receptacle, now deprived of its cartilaginous lining.

"The head of the femur becomes altered to as great an extent as the cotyloid cavity, and the neck also soon participates in the progressive alterations.

"The head loses its spherical appearance, and becomes changed in its dimensions and texture. The articular cartilage, with which it is invested, having lost its relations with the articulating surface of the acetabulum, and not being naturally supplied with the synovial fluid, or with its usual amount of vascular nutrition, gradually undergoes mutations which lead to its ultimate disappearance, particularly where the head comes in direct contact with the osseous tissue of the ilium. The aspect of the head, where the round ligament ought to be inserted, often presents a flattened surface, denuded of its articular cartilage, a thin brittle shell of bone only covering the deteriorated cancellated interior structure of the head. The neck of the femur is also small, short, and stunted, and assumes a more horizontal direction to the axis of the femur than is usual, the head

being more on a level with the trochanter major, and losing its normal obliquity in relation to the shaft of the bone.

"In some instances, where the displacement has been of long standing, the head and neck are found to have entirely disappeared; the ligamentous connexions between the pelvis and the femur being attached, on the femoral side, to the trochanter major or to the upper portion of the shaft of the bone."

These remarks upon the condition of the head and neck of the femur do not coincide with the statements of Dupuytren. We believe, however, that Dr. Carnochan's account is correct, and cannot at all agree in the assertion of the French surgeon, that the superior portion of the femur preserves, in all parts, its form, its dimensions, and its *natural relations;* for, in all the cases we have examined (in which the head and cervix remained), we have observed that the neck of the femur, instead of having its axis directed, as it naturally is, from behind forwards, upwards, and inwards, has, in this malformation, lost its usual relation with the shaft of the thigh bone, and the axis is directed upwards and almost directly forwards.

This alteration did not escape the observation of Dr. Hutton, in his remarks upon a case of congenital luxation of the hip-joint, which he brought under the notice of the British Association, in Dublin, in 1835[a]. He expressed his idea of the altered direction of the axis, by saying that the axis of the neck, in this case, fell *directly* on the *anterior* part of the upper extremity of the shaft; the relative position of the neck and shaft appeared as it might be supposed to do if, the lower portion of the femur being fixed, the upper were twisted *forwards*, the head moving through one-fourth of a circle.

There is another circumstance which we have observed, and which must be viewed in connexion with this altered direction of the usual axis of the neck of the femur just alluded to; it is that the head of the thigh-bone, instead of being directed *backwards*, as it is in the ordinary luxation on the dorsum ilii, has, on the contrary, been directed *forwards*, and placed beside the anterior inferior spine of the ilium, while the great trochanter has been directed backwards.

It is strange that a relative position of the bones of the hip-joint, so different from what has been observed in dislocation upon the dorsum of the ilium from accident, should have escaped the observation both of Dupuytren and of Dr. Carnochan. In a specimen of this malformation, preserved in the museum of the University of Dublin, and in two preparations contained

[a] Dublin Journal of Medical Science, First Series, vol. viii. p. 211.

in the Richmond Hospital museum, this relative position of the head of the femur and of the anterior inferior spinous process of the ilium exists. We do not mean to assert that it is so in all cases, for in this, as in other congenital defects, much variety may be expected to be found, but its frequent occurrence is a circumstance very important to bear in mind, when we are considering the diagnosis of the various affections of the hip-joint.

"The capsular ligament and the ligamentum teres are found also to present various phases and alterations. As a natural consequence of the ascent of the head of the femur upon the dorsum ilii, thecapsule must become elongated and stretched beyond its normal dimensions. The extent of the pelvic and femoral attachments will prevent the two extremities of the capsule from coalescing, but towards its middle portion, the walls approach, producing a contracted appearance at this part, so that the capsule in the primary stages of the malady, before it has given way in its continuity, has been compared, as already stated, to an hour-glass, large at each end and contracted in the middle. The round ligament also becomes stretched and more slender, and is embraced by the central contracted portion of the capsule through which it must extend while it remains unbroken.

"The articular capsule may retain for many years its integrity, the head of the femur playing upon the dorsum ilii during progression, a layer of the capsule intervening between the head and the external surface of the ilium. At length, from continued friction and pressure, absorption takes place, and a portion of the wall of the capsule gives way, so as to allow the head of the femur to escape from its cavity, and to come in direct contact with the osseous structure of the dorsum ilii. This state of things may exist for a longer or shorter period; the head of the femur passing to and fro between its original capsule and the external surface of the ilium. The acetabulum, however, having now lost its normal configuration, permanent reduction is scarcely attainable. When the capsule has been perforated, so as to allow the head to escape from it, the ligamentum teres, becoming elongated and slender, must give way, and soon disappears. This ligament, in the early stage of the displacement, is generally found to retain its continuity."

We have not often noticed the disappearance of the ligamentum teres under the circumstances here mentioned; on the contrary, we have found it in some cases of remarkable strength; in one case, it was an inch in breadth, and more than four inches in length, and as thick as the tendo Achillis near the os calcis. By its inferior surface it was accommodated to the head of the bone, so as to form a kind of cup which followed the motions of the femur, affording it always a recep-

tacle, as the intra-articular cartilage does for the condyle of the lower jaw. In this case the patient was thirty-one years of age.

The changes observed in the configuration of the skeleton of the pelvis are well and accurately described.

"During life, and in the erect posture, where there is dislocation upon one side only, the hip posteriorly, of the side affected, is apparently more elevated, owing to the projection of the trochanter major; but the ilium is found to have descended lower than the corresponding part of the opposite side. In the skeleton, however, the half of the pelvis, which corresponds to the dislocation, is dragged or twisted from before backwards, and from below upwards, so that the side of the pelvis upon which the dislocation has existed, is situated, in relation to the os innominatum of the sound side, upon a higher plane and more posterior, than on the side where the head of the femur has maintained its normal position.

"At the superior strait, the antero-posterior diameter of the affected half is diminished, and the symphysis pubis is drawn beyond the mesial line, in the direction of the affected side. The semi-inferior strait corresponding to the affected side, on the contrary, appears more open and enlarged laterally, and is drawn, as it were, outwards and upwards.

"The individual parts of the pelvis on the affected side, present also deviations from the natural configuration. The ilium, besides being more thin and atrophied, is more vertical and less excavated. The anterior superior spinous process of the ilium is carried somewhat inwards; the inferior anterior iliac spine is more prominent than natural, and immediately below it, and between it and the eminentia ilio-pectinea, is observed a deep groove, in which the conjoined tendon of the iliacus internus and psoas magnus has played. The transverse or horizontal branch of the pubis is longer and more slender, and is directed more obliquely upwards and backwards, than the corresponding part of the sound side.

"The ischium is drawn outwards by the pelvi-trochanteric muscles, so that the tuberosity is seen situated more externally than on the opposite side. As a consequence of the change of direction outwards of the ischium and of the descending ramus of the pubis, the long diameter of the obturator foramen is found to be disposed nearly transversely, instead of almost vertically.

"When the head of the femur is dislocated upon the ilium *on both sides*, both halves of the osseous pelvis participate in the deformity, and frequently the alterations are so nearly alike on either side, that the resulting malformations are symmetrical.

"The wings of the ossa innominata in this case, are found less dense, smaller, and more vertical; the anterior inferior spinous processes of the ilia are found prominent, and the depressions existing below them are seen to be deeply grooved by the continued traction of the tendons, which played in them during life. The horizontal

rami of the pubes are found also more slender and longer, extending considerably farther outwards, on each side from the symphysis, than in the natural state; while the body of the pubes, on each side of the symphysis, is less deep, and also more fragile in texture. The ischia are drawn outwards, and the long diameters of the foramina obturatoria run somewhat in a transverse direction, instead of being nearly vertical.

"The superior strait of the pelvis is contracted in the antero-posterior diameter, while laterally or transversely the measurement is proportionally increased.

"The inferior strait presents a contraction in the measurement from the apex of the coccyx to the arch of the pubes, while the transverse diameter between the ischia, is considerably more ample than in the natural pelvis.

"*Analysis of the Malformations of the Pelvis.*—The extent of the deformity which pervades the pelves of individuals who are affected with congenital dislocation upon the dorsum ilii, must in a great degree be subordinate to the extent of the displacement of the head of the femur, and also to the length of time the luxation may have existed. The characteristics, however, of these malformations are generally so similar and definitely marked, that they can be chiefly referred to a set of anatomical causes which must always exert their influence during the existence and progress of this affection.

"The escape of the head of the femur from the confines of the acetabulum, and its ascent upon the dorsum ilii, will necessarily change the direction and relative action of all the muscles inserted into the upper portion of the femur. The psoas magnus and iliacus internus, on each side, when the luxation is double, will be put upon the stretch in proportion as their points of insertion at the trochanter minor are dragged upwards during the ascent of the head of the femur.

"The quadratus femoris, the gemelli, the obturatores, the pectineus, and probably the upper portion of the adductor magnus, attached on the one side to the pelvis, and on the other to the upper portion of the femur, are also put upon the stretch by the removal of their points of insertion at the femur to a greater distance from their points of origin.

"These abnormal results, in the configuration of the pelvis, brought about by the perverted action of the pelvi-femoral muscles, are materially augmented by the influence which the weight of the body exerts upon the muscles, during locomotion, after the heads of the ossa femorum have escaped from the limits of the acetabula."

We are at present unable to allude to the other portions of this valuable monograph; but we cannot avoid expressing our regret that the author did not visit Dublin before his return to America. Had he done so, he would have seen numerous examples of the remarkable affection to which he has so sucessfully devoted a large share of his attention, and he would have

become acquainted with the cases recorded by Dr. Hutton and Mr. Adams, to whose accounts of the malformation in question he has not alluded. The work is illustrated with several finely executed plates, which convey an excellent idea of the symptoms and anatomical characters of the affection. To all who take an interest in this department of medical science, the elaborate treatise of Dr. Carnochan will afford much valuable information.

Corpulence; or, Excess of Fat in the Human Body: its Relations to Chemistry and Physiology, its Bearings on other Diseases and the Value of Human Life, and its Indications of Treatment. With an Appendix on Emaciation. By T. K. Chambers, D. M., &c. London: Longmans. 1850. Post 8vo., pp. 166.

This interesting and useful little volume is devoted to the consideration of a disease which is too frequently regarded merely as an indication of robust health. Dr. Chambers having been appointed to deliver, in the spring of last year, the annual course of lectures before the College of Physicians of London, as their Gulstonian lecturer, with much judiciousness selected for his subject the inquiry into the effects of the excessive development of fat in the human body. The lectures, as originally delivered, were published in the Lancet, and, having been revised by the author, are now presented to the profession in a separate volume. But few works have hitherto appeared on obesity or polysarcia, and, as the author correctly remarks, the subject has been treated "more as a matter of curiosity than of true practical importance, and cases have been collected rather to furnish amusement than increase knowledge." Yet there can be no question as to the practical importance of the study of a condition of the human body which not alone tends to shorten the duration of life, but frequently to render it a burden to the individual.

Dr. Chambers distinguishes the natural deposit of fat from that which Rokitansky has termed "false hypertrophy," denominating the former *vesicular*, and the latter, *molecular* fat. The one must be regarded as the natural or healthy condition of adipose tissue; the other as a diseased production. About the names we will not quarrel, although we cannot regard them as accurate or sufficiently diagnostic.

The author devotes considerable space to the explanation of the phenomena of the healthy deposit of fat, before consider-

ing it as a disease. Natural fat is found in vesicles, each vesicle being supplied by distinct capillary blood-vessels. An increased development, then, of this tissue, even in a healthy state, must powerfully affect the organs of circulation.

"If, for instance," says Dr. Chambers, "a man of five feet two inches, whose healthy weight would be eight stones, increases to twenty-eight, no less than twenty stones of additional fat have to be supplied with capillaries, and these capillaries have to be supplied with blood by vessels constructed to circulate but one-third of the quantity."

This, then, is sufficient evidence that what by the world might be regarded as only an indication of rude health, is attended with an over-taxation of vital power.

In his second and third chapters the author considers the immediate connexion which exists between oleaginous food and the deposit of fat in the body, and proves by a series of interesting facts, deduced from the investigations chiefly of modern physiologists and chemists, most of which are familiar to our readers, that fat is possibly formed from all proximate principles of diet, but that nature's favourite material for its production is oleaginous food. To this he ascribes the instinctive desire of man for an oily diet, and its association with notions of luxury in all times. Its influence, however, we think, is not so distinctly proven as Dr. Chambers seems to imagine; for we are acquainted with numerous instances which are directly opposed to his conclusion. Some of our *fattest friends* are most abstemious in their diet, no matter of what it may be constituted, and absolutely abhor all sorts of rich food. Moreover, the theory is altogether inconsistent with the variety of condition which infants at the breast present. The excessive growth of fat must, we think, rather be ascribed to congenital peculiarity, to a low development of the nervous and circulatory systems, and to hereditary transmission. Observations derived from experiments on the lower animals cannot fairly be brought to bear on man, whose mental activity influences so much his digestive powers. For our part, we regard the condition of the nervous energy of almost more importance, as regards the accumulation of fat in the body, than that of the digestive organs, or of the food taken into them.

Fat being to a certain extent an indication of health, the first question that naturally arises is, to what degree must it be deposited in the system before it can be regarded as in excess, or, to speak with our author, as constituting a disease? Weight

is, according to Dr. Chambers, the best measure of fat; for although bone and muscle may, under certain circumstances, be much augmented or largely developed, the alterations in their proportionate magnitude affect but little the comparative weight of the whole body.

"An ordinary human skeleton rarely comes up to fourteen pounds, and for a man's weight to vary a stone from the standard of averages is of no account.

"An example, which I will cite, of hypertrophy to a remarkable extent of the bones and muscles, will point out to what a small degree these organs affect the weight. The measurements below were taken from a French gardener, a cast of whose hand I have in my possession, through the kindness of Mr. Brent.

Circumference of	Neck,	18	inches.
,, ,,	Breast,	44½	,,
,, ,,	Forearm,	13	,,
,, ,,	Wrist,	8⅓	,,
,, ,,	Palm of hand,	11¼	,,
,, ,,	Calf,	17	,,

"If you compare these with the corresponding parts in your own persons, you will easily judge what a strange ungainly figure he must present to the eye. Yet he weighs, clothes included, but sixteen stone. You would never have found by the balance that his bones and muscle were of such huge dimensions. The reason is, that he has but very little fat upon his body."

In the young, however, increase of weight is not so true a test of development of fat; for in them the *growth* of muscle, of bone, and of the variety of material of which the body is composed, must be taken into account and duly allowed for; while, in the adult, *growth* having comparatively ceased, any increase of weight much beyond what is ordinary must be attributed to deposit of fat. But can we lay down any standard or precise rule of healthy weight? This we cannot do, for it is evident that peculiar occupations will admit of a greater or less degree of fatty deposit, compatible with health; but all sudden or rapid increase in weight beyond the ordinary condition must be regarded as indicative of what, we think, may well be termed *fat disease*. That there are limits also proportioned to height and age is sufficiently evident, and these are easily judged of. Dr. Chambers gives the following table, from a paper by Dr. Hutchinson, published in the Transactions of the Medico-Chirurgical Society of London, for 1846, in which the average weight in health is deduced

from observations made on 2650 healthy men, between the heights of five and six feet:

"Height. Feet.	In.	Weight. Stones.	lbs.
5	1	8	8
5	2	9	0
5	3	9	7
5	4	9	13
5	5	10	2
5	6	10	5
5	7	10	8
5	8	11	1
5	9	11	8
5	10	12	1
5	11	12	6
6	0	12	10"

A very important question is shortly considered by the author in this, the sixth chapter, namely, the development of fat as an element in calculations of the value of human life, with reference to life assurance; and we fully agree with him in the view which he takes, and the stress which he lays on its practical importance. We have before referred to the additional labour thrown upon the heart by the increased capillary circulation, and by this are caused a deranged condition of the supply of blood throughout the body, and a consequent tendency to abdominal congestions and apoplexy. As the author well observes, "when it is remembered that four-fifths of the losses at assurance offices arise from apoplexy and consumption," the weight test can scarcely be over-rated. While, therefore, we lay much stress on augmentation of weight as an evidence of a departure from health, we should not the less notice its sudden or gradual diminution. All persons undergo variations, both in decrease and increase, which are altogether compatible with health, and can seldom be ascribed to any obvious cause:

"Thus, most persons are heavier in winter than in summer, and with some the change takes place with great regularity. A medical man of my acquaintance, who has weighed himself for some years with strict attention, finds that at the beginning of May he commences losing weight, and falls down nine pounds from his ordinary average. He remains light till the 1st of September, and then he begins to increase till he has returned to his ordinary bulk, which he retains till the next May again reduces him. He had resolved, several summers, to give up his profession, till he found that the emaciation was due to the season, and not to real ill-health. This loss in summer and gain in winter is curiously coincident with a fact which bare superficial theory would not have taught us to ex-

pect, viz., that the carbonic acid passing away by the lungs is greater in the cold than the warm season; that is, that carbon passes off by the respiration in greatest abundance at the same time that it is also fixed in largest proportion in the body. Our present knowledge of physiology does not enable us to account for this; and we can only conjecture that in winter, fat, and foods which make fat, are taken into the blood more copiously than at other seasons."

In his seventh chapter, Dr. Chambers gives a general account of the cases of obese persons, thirty-eight in number, from which his deductions are drawn; twenty-six of these were collected by himself, and are instances of persons still alive, and in moderate health. As the result of his observations, it appears that obesity may commence at any period of life, sometimes beginning immediately after birth; but in such cases the children seldom live long, usually dying of suffocation. A minor degree of fatty development, as must be known to our readers, is not uncommon in infancy; but being usually caused by excess of too highly nutritious food, may be readily controlled by a proper regulation of diet. The author notices a singular fact, that while infantile obesity is not more common in the families of corpulent persons than in others, the form which affects the succeeding period of life is almost always due to hereditary disposition.

Independently, however, of the general deposit of fat tending to shorten the duration of life, the occurrence of irregular and partial obesity, especially where the fat is deposited in the omentum, constituting the pendulous abdomen, must not be overlooked. Dr. Chambers believes the latter to be a great shortener of existence, by the diseases to which it gives rise, and with him we fully agree, although we do not think that he fully or accurately explains the cause of this tendency. It is to be referred, not alone to the sedentary, or, more correctly speaking, lazy habits, which this condition engenders, but to the increased labour thrown upon the other muscles of respiration by the want of assistance from those of the abdomen, to the consequent imperfection of the function of respiration directly, and to the derangement of the central organs of circulation indirectly. We thus have fertile sources of local congestion, of inflammatory affections, of apoplectic tendencies, and of nervous diseases. Fatty disease of the heart, too, is an important form of its partial deposition. This takes place most frequently in persons who have a general tendency to the development of fat, but it sometimes occurs also in individuals not so disposed, of which the author gives several instances. For a complete account, however, of this part of the subject,

we refer our readers to the review of Dr. Quain's excellent monograph in our present Number.

In his eighth chapter, Dr. Chambers considers the predisposing and exciting causes of obesity.

"In persons prone to obesity, we may usually observe, that the bony framework of the body is less massive than in the spare, as is indicated by the smallness of their hands and feet. In the great majority of the cases before us, this peculiarity has been noticed in the column appropriated to it. The same is commonly seen also in cattle; in buying beasts likely to fatten well, the grazier will select those whose legs below the knee are short and taper, and refuse the long-backed, heavy-hoofed ox. This shows that bone has had little to do with the great weights of the obese persons recorded in the list. Their osseous skeleton, the part of their body which is of the greatest specific gravity, is smaller than that of other people, yet the whole body is much heavier. This confirms what was suggested in the former chapter, that extreme weight in the human species may be always considered as due to bulk of adipose matter, and not to excess of bone. A sufficient quantity of bone added to the body, to make a person come nearly up to any of the weight of these corpulent individuals, would render the skeleton too clumsy to answer the ordinary purposes of life. A man can move about and work with eight or nine extra stone of fat about him, as, for instance, R. B. (No. 31), who is a miller in constant employment day and night; but if that quantity of bone was laid on his skeleton, the muscles would be unable to wield the deformed limbs. The weight of a man's bones, in the dry state, with the ligaments attached, does not exceed a stone at most, and it is easy to guess how its relation to the muscles would be altered were it quadrupled in size only.

"In persons of hereditary obesity the skin is usually fresh coloured and dry; the hair soft and fine.

"In the urinary organs I am not aware that they differ in any respect from others.

"In youth and middle age the digestive apparatus performs its task usually with rapidity; and in cases where fatty hypertrophy is general throughout the body, I have not observed that tendency to constipation which is sometimes said to accompany obesity. The action of the bowels is generally natural, and in some cases loose. But where the accumulation of fat is principally in the omentum, that pendulous state of abdomen is apt to be produced, which, causing a displacement and dilatation of the bowels, makes those, which were naturally loose and active, sluggish or irregular.

"The respiratory function in obese people presents us with a well-marked and very universal peculiarity. The volume of air which these people are capable of containing in or expiring from their chest is considerably less than the average quantity of those of their height. The lungs, instead of holding more air because the body is larger, appear, in these cases, of diminished capacity."

Hereditary predisposition is, according to Dr. Chambers,

more decidedly marked in obesity than in any other disease; the proportion being, in insanity, 13 per cent; in consumption, 24½ per cent.; and in the cases of obesity collected by the author, 84¼ per cent.

Of the exciting causes, the most common is an acute attack of illness, the tendency being then very probably occasioned by the necessary confinement attendant on it. Chronic diseases, which do not injure the constitution, and accidental surgical injuries, are consequently fertile sources of this change in the system. Of occupations, those which combine a moderate amount of labour with plenty of fresh air predispose most to the development of fat; of this fact, the coachman's life is a good example.

In the ninth chapter, the anatomical characters of obesity are considered. The most important deviations from the healthy condition are increase in volume and weight of the tissue affected, and, as we have already noticed, the augmentation in extent of the capillary circulation. The latter is the chief predisponent to disease, and affords a satisfactory reason why corpulent people bear depletion so badly, even in the most inflammatory affections. It is, therefore, a point of much practical importance, and one justly insisted on by the author, as regards the treatment of disease in such persons. The effects produced by this condition of the circulation are well illustrated by the following account which he gives of the causes of death in sixty-nine corpulent persons, the post mortem records of whose cases are, he says, to be thoroughly trusted:

"*Medical Cases.*

Dropsy,	13
Apoplectic Coma,	11
Pneumonia,	5
Pleurisy (acute 2; chronic 1),	3
Fainting (fatty atrophy of heart),	1
Aneurism, 1; malignant disease, 1; fever, 1; rupture of stomach, 1; polypus uteri, 1,	5
Erysipelas of face,	1

"*Surgical Cases.*

Peritonitis after hernia,	8
Erysipelas after ulcers and slight wounds,	3
Gangræna senilis,	2
Diffuse cellular inflammation,	2
Secondary abscess,	3
Nephritis after lithotripsy,	1
Diseased prostate,	1
Accidents,	10
	69

"The heart was examined in fifty-seven of these patients. In seven it was found healthy—viz., in four who died from accidents, in one case of rupture of the stomach, one of hernia, and one of nephritis. In the latter case, the principal local collection of fat was about the kidneys, where the amount usually found was greatly augmented.

"In fifty of the fifty-seven cases where the heart was examined, it was found diseased,

"Of the fifty diseased hearts,

5 were hypertrophied and not dilated;
8 hypertrophied and dilated;
26 dilated only;
11 atrophied.

"In sixteen of these there was an increased amount of vesicular fat about the heart—viz.,

In 13 of those which were dilated;
In 2 of those which were atrophied;
In 1 of those hypertrophied and dilated.

"In fourteen instances the kidneys were also affected with chronic degeneration, which in all those where an opportunity occurred of forming an opinion, seemed to be consecutive on the cardiac disease."

In the tenth chapter, the treatment of obesity is considered. The congenital form of the disease, which commences at or immediately after birth, and increases rapidly, is, the author believes, not amenable to treatment, causing death almost invariably before puberty: he justly, we think, regards it as a species of monstrosity. For the other forms of the disease, however, he lays down judicious rules of treatment, by which, he says, that although we may not be able to reduce our patients to an average size and weight, we may render their life comfortable. The author especially advises strict attention to diet, and the avoidance of all articles which are digested into fat: under this head some excellent practical rules are given as to the amount of food which should be taken, and the period of meals. Sleep and exercise, as remedial agents, are also duly considered; and Dr. Chambers truly remarks that regiminal rules on these points, and on diet, must be considered as of primary importance in this affection. Medicines are secondary and auxiliary, and of them he treats under the heads of sudorifics, purgatives, alkalies, bleeding, tonics, vinegar, diuretics, and iodine. His observations on these we cannot condense; they are too valuable; and we shall merely state that he places the alkalies in the first rank, for their powers in reducing obesity; and of them he especially commends the use of liquor potassæ given in milk and water; the dose to be com-

menced with should be half a drachm, and this may be gradually raised to a drachm and a-half three times a day.

The work concludes with a table of cases of obese persons, and an Appendix on Emaciation, in which its causes, character, and treatment are concisely considered.

We cannot part with Dr. Chambers without commending most highly his little volume; it is both instructive and interesting, and, on a small scale, presents a model of how such an inquiry should be conducted.

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1. *Elements of Materia Medica and Therapeutics.* By Jonathan Pereira, M. D., F. R. S., &c. Third Edition. Vol. II., Part 1. London: Longmans. 1850. 8vo. pp. 899 to 1538.

2. *Medicines: their Uses and Mode of Administration; including a complete Conspectus of the three British Pharmacopœias, an Account of all the New Remedies, and an Appendix of Formulæ.* By J. Moore Neligan, M. D., M. R. I. A., &c. Third Edition. Dublin: Fannin & Co. 1851. 8vo. pp. 555.

The Materia Medica of Dr. Pereira is, as he truly terms it, an *encyclopædia* of this branch of medical science. Unrivalled in any language for the amount of information it presents on the general history of drugs, their physiological action, and medical uses, it constitutes a vast store-house of information for the student and practitioner. We therefore gladly receive this instalment towards the completion of the third edition, and we hope shortly to be able to announce the publication of the remaining portion of the second volume, which will complete the work.

For obvious reasons we can do no more than announce the appearance of the third edition of Dr. Neligan's book. Amongst the new medicines now, for the first time, described in it, may be mentioned chloroform, of the uses and administration of which the following account is given:

"Since its discovery, chloroform had been more or less used on the Continent and in America in the liquid form as a sedative, but was very little employed in this country. The chief diseases in which it had been administered, with benefit, were asthma, spasmodic cough, and cancerous and other painful affections; in cancer, it is most highly praised by Mr. Tuson, of London, but general experience has not confirmed his extravagant statements. More

lately it has been given with good effect in obstinate vomiting, in asthma, and in hysteria; it has also been employed in the treatment of spasmodic cholera. Externally applied, it allays pain and local irritation, and is therefore used with good effect as an addition to liniments or ointments in neuralgia, muscular rheumatism, and cutaneous diseases, attended with itching, especially prurigo, and lichenoid eruptions; it may also be applied undiluted in these affections. But it is for its effects when inhaled in the form of vapour, that chloroform has become so important a therapeutical agent. Towards the close of the year 1846 the discovery was made in the United States of America, that a state of partial coma with insensibility to pain could be produced by the inhalation of the vapour of sulphuric ether; and this discovery was rapidly taken advantage of, for the purpose of preventing any suffering to the patient during surgical operations. It was almost immediately found, however, that ether inhalation was very uncertain in its effects, producing in many persons violent excitement, spasmodic action of the muscles, and delirium, and in some instances death even followed its employment. The attention of the members of the profession, over the whole globe, I might say, was therefore at once actively engaged with the view of discovering a safe and effectual substitute for it; the honour of this, one of the most important discoveries of modern times, fell to the lot of Professor Simpson, of Edinburgh, who, in November, 1847, ascertained that chloroform possessed the desired properties. The vapour of chloroform when inhaled in quantity not exceeding that evolved by half a drachm, produces a feeling of fulness in the head, dizziness, and partial loss of consciousness, with usually pleasurable sensations: the effects vary according to individual temperament, but in all they more or less resemble semi-intoxication. If the quantity inhaled be augmented, total insensibility is quickly produced, usually in from thirty seconds to two minutes, the insensibility being marked by slight stertorous breathing, muscular relaxation, and fixing of the eyes. If the inhalation be now stopped, perfect consciousness will be restored, usually in from five to six minutes, the individual recovering without any remembrance of what had taken place. The circulation is but little affected during the state of anæsthesia, the strength of the pulse being generally diminished, while its frequency is increased. The anæsthetic condition may be kept up for hours with impunity, as is often done in childbirth, by a cautious continued use of the inhalation. The therapeutical applications of the inhalation of chloroform are sufficiently manifest, its effects being so fully explained above; but the two purposes for which it is specially used require to be shortly noticed, namely, the prevention of pain during surgical operations and in childbirth. At first, much opposition was given to the employment of anæsthetic agents for the induction of insensibility during operations, and the occurrence of an occasional fatal case, even where chloroform had been inhaled with all due precautions, still affords its opponents an argument against its use;

but the magnitude of the boon conferred is so great, and the proportionate risk of ill effect so small, that it is now used almost universally by surgeons in even the most trivial operations. There is one class of operations,—the reduction of dislocations, in which it not only prevents pain, but by its relaxing effect on the muscular system removes all difficulty in the reduction, so that the complicated apparatus of compound pulleys, &c., is no longer required. In the reduction of strangulated hernia, and in the introduction of a catheter in spasmodic stricture, its relaxing effects are also especially advantageous. In operations about the mouth and nose only is the production of anæsthesia contra-indicated, and this depends on the danger that might result from the flow of blood into the air passages during the insensible state of the patient. It is, however, to the use of chloroform during childbearing that most opposition has been given, and a fierce controversy has raged between obstetrical practioners on the subject, since it was first employed by Professor Simpson; scripture authority even being brought to bear on both sides of the question. But as I am not myself a practitioner in midwifery, and consequently cannot speak from personal experience, I wish merely to deal with facts. In Edinburgh anæsthesia is induced—to speak in general terms—in *every case* of labour, natural or preternatural, and with safety to both mother and child; while the opinion of the majority of accoucheurs in this and most other large cities, as far as I can judge from what has been written on the subject, is well expressed in the following extract from the second edition of Dr. Churchill's Midwifery :—'As to its exhibition in *natural labour*, as I do not believe that in the large majority of cases convalescence is at all impeded by the suffering, I cannot see the necessity, or even the propriety of urging the employment of anæsthesia in every case; and I do feel that even greater caution ought to be used than in operative midwifery. We may be justified in running some risk when an important point is to be gained, such as perfect quietness during an operation, which we should not be justified in incurring merely to relieve pain; thus, in hysterical or nervous patients, in those labouring under nervous affections or organic diseases of the lungs or heart, &c., I do not think we ought to employ it.' It is right, however, to add, that in no instance has a fatal result followed the inhalation of chloroform in midwifery practice. In conclusion, anæsthesia has been employed in the treatment of asthma, delirium tremens, hysteria, neuralgic affections, &c.: but our experience of it is too limited as yet to draw any conclusions as to its therapeutic value in these affections. In one case of hay asthma I have seen the access of the disease kept off by constantly smelling chloroform, which the patient carried about with him in a bottle for the purpose.

"*Dose and Mode of Administration.*—Internally in the fluid form, min. v. to min. xxx. suspended in water by means of mucilage or dissolved in it with the aid of a little spirit; in consequence,

however, of its great volatility, it should always be prescribed in draughts: for external use f3j. to f3iv. may be mixed with half a pint of any liniment, or f3ss. added to ℥j. of an ointment. *Anæsthesia* is usually produced by the inhalation of the vapour produced by from f3j. to f3ij. It is most effectually and safely administered in the manner first proposed by Professor Simpson: namely, by pouring the chloroform into the hollow of a handkerchief folded in the form of an inverted cone; at first f3j. only should be used, and if the desired effect be not produced in about two minutes, the same quantity should be renewed. Various forms of *inhalers* have been proposed for the administration of the vapour of chloroform, but I must confess that I prefer the simple handkerchief. The chief points to be attended to are:—1st, that the patient should be lying on his back with the head slightly raised; 2nd, that he should be permitted at first to breathe atmospheric air mixed with the chloroform, which is effected by not bringing the handkerchief too close to the mouth and nose at once; 3rd, that the vapour should be altogether withdrawn as soon as insensibility is produced, which is usually evidenced by the occurrence of slight stertorous breathing, for the condition can be kept up for any length of time that may be requisite, by the occasional reapplication of fresh chloroform in the handkerchief; 4th, the patient's stomach should be empty when the inhalation is commenced, as otherwise vomiting is apt to be produced; and 5th, should fainting or other evidence of sinking occur, the best restorative is atmospheric air; ammonia also may be applied to the nostrils, the cold douche on the head used, or even artificial respiration may be had recourse to, *but no stimulants should be given by the mouth.* There is but one other remark which I have to make for the benefit of those inexperienced in the use of chloroform, namely, that during the process of inhalation, just before insensibility is produced, there is usually a struggle on the part of the patient; *this must be resisted, and the charged handkerchief kept just at that time closely applied to the mouth and nostrils.*"

Of the Crystalline Lens and Cataract. By Bernard Edward Brodhurst. London: Churchill. 1850. 8vo. pp. 243.

The first section of this essay is occupied with an account of the following subjects:—The anatomy of the crystalline lens; the lenticular capsule; aqua Morgagni; the physiology of the lens; and the iris.

The second section treats of the general characters of cataract.

In the third, the author takes into consideration the diagnosis, prognosis, and different forms of cataract, together with the various operations proposed for their cure.

We have read Mr. Brodhurst's book with attention, espe-

cially the chapter devoted to the subject of cataract, which occupies 185 pages of the work; and we are of opinion, that there is nothing of a practical nature contained in it, which may not be found in any of the text books on the subject, already before the profession.

We do not wish to deal harshly with a gentleman on his first appearance in the garb of an author, but it is the duty of an impartial reviewer to inquire into the opportunities of observation enjoyed by a physician or surgeon, who undertakes to enlighten his brethren on an important branch of the profession, by writing a monograph on the subject.

Mr. Brodhurst does not appear to be connected with any institution devoted to diseases of the eye; and in fact, the only interesting portions of the essay are notes of cases seen by the author during a prolonged visit to the continent of Europe, and which chiefly occurred at the "Josephinum" in Vienna, under Professor Jäger, or under the care of Rosas.

We have always maintained that no one is justified in undertaking to write a practical treatise on any important branch of medicine or surgery, until he is in a position to bring with him a considerable amount of personal experience; and this opinion, we are pained to say, is, in our mind, peculiarly confirmed by the book before us. Should Mr. Brodhurst be fortunate enough to obtain an appointment as surgeon to one of the British ophthalmic institutions, a position to which his ambition is evidently directed, we shall be happy to meet him hereafter, when we may probably look on him in a very different light from that in which he at present appears—a mere book-maker.

Introductory Address on Medical Education, with especial Reference to the Course of Study required for the Degree of M. D., in the Queen's University, Ireland. By Alexander Fleming, M. D., Professor of Materia Medica and Dean of the Faculty. Dublin: Hodges & Smith. 1850. 8vo. pp. 32.

At the opening of each medical session in London, the custom of delivering introductory addresses, and of publishing them afterwards, is still religiously observed; but in our Dublin schools, although introductory lectures are occasionally given, their authors very rarely esteem them of sufficient importance to be clothed in the garb of a pamphlet. In this, we think, they exercise a wise discretion, for unless the proper intention of these addresses, that of offering advice and giving elemen-

tary directions to the junior student, be altogether departed from, we do not see how they can be made to contain sufficient novelty or interest to render their perpetuation in type of advantage either to their author or to the profession.

These remarks, however, do not apply to the introductory address now before us. A great experiment, as regards medical education, is being tried in Ireland: three colleges have been established in the provinces, as branches of a new metropolitan University, in which degrees in medicine (we are speaking of our own profession merely) are to be granted by royal authority; and it was necessary, therefore, that the proposed system, in order to receive a fair trial, should be fully laid before the professional public. This has been well done by Dr. Fleming, in the lecture which he, as Dean of the Faculty, delivered at the opening of the medical department of the Queen's College, Cork, at the commencement of the present session. A perusal of this address we strongly recommend to our readers; its style is flowing, correct, and free from the hyperbolical phraseology with which introductory lectures so usually abound; and in addition to its including, as the title intimates, a review of the course of study demanded by the regulations of the Queen's University, it contains some admirable observations, conceived in the high tone we should have expected from the lecturer, on medicine as a science, and on the manner in which it should be viewed by the student. We extract for illustration the following paragraph:

"I would remind you, also, of your obligations to your profession, that you may endeavour to reflect upon it a portion, at least, of the honour it confers upon you. The elevation generally of the profession in the social scale will be accomplished solely by the improved knowledge, virtues, and usefulness of its individual members; and you need not indulge the hope that any measure of medical reform or legislative enactment will raise our status otherwise than by enforcing a better training of the youth destined to medicine, and higher general and professional acquirements."

PART III.

REPORTS, RETROSPECTS, AND SCIENTIFIC INTELLIGENCE.

PROCEEDINGS OF THE PATHOLOGICAL SOCIETY OF DUBLIN.

ELEVENTH SESSION.—1850–51.

Pneumonic Abscess.—Dr. Corrigan presented a specimen illustrative of the pathology of pneumonic abscess. On the 16th February 1850, a man was admitted into the Whitworth Hospital. He stated that he had been for a long time addicted to intemperate habits, and in consequence of his propensity in this respect, had suffered from an affection of the larynx during the preceding winter, accompanied by cough and considerable difficulty of swallowing. On admission, he complained of pain in the left side and shortness of breathing; and upon percussing the chest, a well-marked dulness was observed at the base of the left lung posteriorly, and a slight degree of dulness anteriorly. In fact he presented the ordinary symptoms of a mild attack of pleuro-pneumonia. For this complaint the patient was placed under the influence of mercury, and was so much improved at the end of five days as to be pronounced convalescent, and almost fit to be discharged. On the 26th February, however, he was suddenly seized with pain in the left side, and his pulse rose to 100, and was remarkably weak. On the 28th, Dr. Corrigan found him lying on his left side, in bed, in a state of profuse perspiration, and expectorating matter of a dark rusty colour, resembling the "prune juice" expectoration of Andral. The smell of this expectorated matter was intolerably fetid. Muco-crepitating râles were at the same time heard over the whole of the left side of the chest, and the patient appeared to be rapidly sinking. The perspiration continued to distress and weaken him, the sputa continued fetid, and on the morning of the 5th March, Dr. Gordon drew his attention to a new symptom, intense gargouillement, accompanied by a slight amount of metallic tinkling, which were detected at a spot corres-

ponding with the inferior angle of the left scapula. He died on the next day, the 6th March.

Autopsy.—On cutting through the structure of the left lung, it was found much congested, and the bronchial tubes were filled with purulent and fetid matter similar to that which was expectorated during life. A large cavity was discovered in the middle of the base of the lower lobe; it was lined by soft lymph, evidently of recent formation. The character of this membrane was very striking, and the boundary between the abscess and the remainder of the lung was so well marked as to convey the idea of a cavity lined with wetted parchment. The membrane was evidently of recent formation, and no appearance of disease could be detected beyond it; the lung being elsewhere permeable to air, and, with the exception of a certain amount of congestion, perfectly healthy.

Dr. Corrigan observed that the present was one of five cases of a similar description which had fallen under his observation. In the first of these cases the patient was attacked with pneumonia whilst in London, and for a period of two or three months after the attack he expectorated purulent matter, which was not, however, fetid, as in the present case. At length he suddenly died from hemoptysis, and it was discovered that both lungs were sound, with the exception of a cavity in the same part of the lung as was attacked in the present case, namely, the lower lobe of the left lung. In the second case, which occupied a period of two or three years, the patient recovered after having suffered from repeated attacks of expectoration of a fetid character. The disease in this instance seemed to be intermittent, for the patient sometimes passed twenty-four hours without expectorating, and then, perhaps, he would be suddenly seized with symptoms of suffocation, and throw up a quantity of purulent matter. He would then return to his former state, and some time would elapse before he experienced another attack.

In the third case the disease was situated in the inferior lobe of the right lung, and the patient recovered. In the fourth case there were abscesses in the liver as well as in the lung; but the abscesses in the former had no means of communication with the lung. The patient, as in the preceding case, used to be suddenly seized with difficulty of breathing, in consequence of the air tubes becoming filled with purulent matter. In a fifth case, the patient had a discharge of purulent matter from the intestines. In the case before the Society, the abscess came very close to the surface, which accounted for the gargouillement and metallic tinkling. He brought it forward as a contribution to the pathology of abscesses in the lungs, which, as yet, had not been sufficiently studied; for, though patients affected with pulmonic abscess recovered very slowly, still the cases he had mentioned sufficiently showed that persons would recover from the disease. The fetid expectoration, these cases demonstrated, was not necessarily connected with gangrene of the lung; and consequently if the sudden sinking and other constitu-

tional symptoms which invariably attended gangrene of the lung were not present, he was of opinion that the presence of the fetid expectoration was to be regarded as diagnostic of a pulmonic abscess, and, of course, as a circumstance rather favourable than otherwise, as regards the recovery of the patient.—*March* 9, 1850.

Endocarditis; Disease of the Mitral Valves.—Dr. Stokes drew the attention of the Society to a specimen taken from the body of a young man, who died lately in the Meath Hospital, with symptoms of disease of the heart, and which, in his opinion, illustrated the supervention of acute endocarditis in a heart which had been previously affected with chronic mitral valve disease.

The patient stated that he had been subject to dyspnœa and palpitation as long as he could remember. He came to the hospital with symptoms of acute bronchitis affecting an emphysematous lung, his chest inflated to a great degree. At that time, it is important to observe, that no valvular murmur was detected in the heart. In a few days, Dr. Stokes remarked that a great change had taken place in the patient. He became feverish, the heart was violently excited, and then a loud murmur, corresponding to the region of the mitral valve, was heard. His first idea was, that the patient had been attacked with pericarditis; but, after the lapse of twenty-four hours, no friction sound being heard, he came to the conclusion that it was endocarditis. The boy died from the attack.

Autopsy.—Upon dissection, it was found that the sac of the pericardium was obliterated by old adhesions. The heart was somewhat enlarged, and the internal membrane of the aorta bright red; the valves of the aorta of a blood-red colour, and as it were, villous. The interesting portion of the case was, that the mitral valve exhibited marks of very ancient disease. Its ventricular aspect was nearly circular, while in the auricular face of the opening ragged ossific concretions of small size, but in great number, existed. This case, he considered, might be held as an additional example of the fact, that there may be valvular disease existing without the development of murmur, until from some circumstance, either inflammation, mental excitement, or the use of stimuli, the heart becomes excited, and then the valvular murmur is developed. In the present case the valvular murmur was not discovered until symptoms of endocarditis set in; so that there may be a valvular murmur in connexion with acute endocarditis, part of which is caused by previously existing though latent disease.

The aortic valves were extremely red, though not otherwise diseased. The lining membrane of the aorta was of a most brilliant scarlet colour. Another point of interest in the case was, that the pericardium was universally obliterated by extremely old adhesions.

The Society was aware that Dr. Hope had laid great stress upon the occurrence of obliteration of the pericardium, as the source of

disease of the heart. He says he has never found obliterated pericardium without hypertrophy of the heart. The experience of the Dublin School was not in accordance with this statement, and Professor R. W. Smith has found obliteration of the pericardium as frequently in connexion with atrophy as with hypertrophy of the organ. Dr. Hope's reasoning was, that whenever the muscular forces had to overcome a difficulty, increased action and hypertrophy follow. Dr. Stokes was of opinion that no analogy existed between the impediment to muscular action in adherent pericardium and in valvular obstruction; in the first case the muscle is probably prevented from acting; in the second it is free to act, and it is precisely in the condition of one of the voluntary muscles, the force of which has been developed by muscular exercise; but where its action has been interfered with by the obliteration of the pericardium, then it is under different circumstances, and he thought that this condition was one much more likely to cause atrophy than hypertrophy. It is known, for instance, that in ulceration of the leg, where the tendons are matted together, and become adherent to the bone, atrophy follows the obstruction to muscular action; for in this case the muscles are not free to act. If the investigation were to be pursued further, and an examination made as to the general effect of the obliteration of the serous membranes on the organs which they cover, Dr. Stokes thought atrophy would be found to occur much oftener than hypertrophy. Under all the circumstances, therefore, he thought it would be fair to conclude that obliteration of the pericardium had not that direct influence in producing hypertrophy that Dr. Hope had thought, and that, on the contrary, it is more likely to be followed by atrophy of the heart. In the cases of combination of obliteration with hypertrophy the cause of the latter condition must be sought for.—*December* 7, 1850.

Pericarditis.—Dr. Corrigan having exhibited the specimen of the following case, said it was one which he wished to add to several cases of a similar nature, which had been supplied within the last two or three years. There was abundance of information possessed as to the early or first effects of inflammation on the membranes of the heart, whether external or internal. They had also a large amount of information as to the extent and nature of organic disease of that organ in its last stages, but they still were in need of accurate and extensive information as to the progress of disease from the time lymph was first deposited on the heart until it finally ended in organic disease.

The conclusions already arrived at on the subject were, he thought, singular, and also interesting to the practitioner, viz.:—that the lymph shed upon the heart, either upon the valves or the external membrane, remained longer (whether it was from the continued motion of the organ or not he could not say) in the transition state, or that state which formed the link between its first deposition and its organization, than in other organs or situations, and

thus permitted for a longer time the employment of those remedies which were calculated to promote absorption.

The case from which the present preparation was taken was that of a young girl, aged seventeen years, who was admitted into the Whitworth Hospital on the 6th September, and who died on the 10th of the same month. A month before her admission she had been subjected to exceedingly severe and harsh treatment from her parents, and had gone through great labour and fatigue, as well as much anxiety of mind. Dr. Corrigan had on several occasions seen pericarditis produced under similar circumstances of ill usage, particularly in children taken from charitable institutions, who had become servants, &c., and had more labour thrown upon them than they were able to go through. A month before her admission she was affected with severe palpitation, and a few days before admission a very severe attack of dysentery set in, for which complaint she was taken to hospital, and not for the attack of the heart. The history of the case during its progress it was not necessary to detail minutely. She died of the dysentery, and there was found extensive ulceration of the bowels. The circumstance of her death furnished an opportunity of observing the effects of the pericarditis, the first remarkable circumstance connected with which was the friction sound. In many cases of this disease the friction sound is so distinct that there is no possibility of mistaking it for any other; but every one who has had extensive opportunities for observation knows that sometimes there is a great difficulty experienced in determining between friction sound and bruit. He was frequently puzzled in endeavouring to distinguish one from the other. In this instance, that it was the friction sound was demonstrated by a simple experiment. When the patient lay upon her back, and when the stethoscope was applied over the lower part of the sternum, or the cartilages of the ribs in close connexion with it, the friction sound was clearly perceived; but when placed in a sitting posture, and made to lean forward, the sound disappeared: this at once showed that it was the friction sound, and not bruit de soufflet. The effect produced by change of position was as follows. There was a quantity of serous fluid effused into the pericardium. When the patient lay on her back, it gravitated, and the anterior surface of the ventricle, covered with lymph, came into contact with the opposing surface of the pericardium; but when she sat up and leaned forward, the fluid came forward and intervened between the heart and pericardium, and the friction sound disappeared. The means used in this case to determine between the two sounds will be sometimes found useful. On percussing over the region of the heart, there was found to be no increase of dulness, for the amount of the fluid was not sufficient to cause dulness. The patient suffered from palpitation and swelled ankles, which so often accompany this form of disease.

Autopsy.—On percussing the dead body, there was not found any increase of dulness over the region of the heart. The lungs

were sound, and a quantity of serous fluid, from about four to six ounces, was found in the pericardium. There were also found lying upon the surface of the heart flakes of lymph, like lymph which had been recently deposited, and on the anterior surface of the right ventricle there were two or three patches about the size of a shilling, or somewhat less, and which, in all probability, caused the friction sound.

Dr. Corrigan said the case gave some information as to the extent of time, namely, six weeks, counting from the week the patient first took ill, during which lymph can remain without being organized, and in a state capable of permitting absorption. The information afforded by it as the means of distinguishing between friction sound and bruit de soufflet, also induced him to bring the case before the Society.—*December* 7, 1850.

Aneurism of the Thoracic Aorta.—Dr. Lyons said he was enabled, through the kindness of Dr. Stokes, to lay before the Society a specimen of aneurism which presented some features of considerable interest. The case was an example of aneurism in which sudden death took place without rupture of the sac, and post mortem examination failed to show evidence of any lesion sufficient to account for the fatal result. It was much to be regretted that no history of the phenomena presented during life could be obtained, as the patient, whose name was Clarke, a man about fifty years of age, died on the evening of the day of his admission into the Meath Hospital. According to the report of the nurse, the manner of his death, with the exception of its suddenness, presented nothing marked or characteristic. Death had been known to ensue in cases of aneurism in some manner totally unconnected with rupture of the sac, and quite independent of other organic lesion, as in a case which he had published in the Dublin Quarterly Journal of Medicine[a]. In the case now under consideration, a large tumour, from three to four inches in diameter, was found, principally engaging the transverse portion of the arch of the aorta. The ascending portion of the vessel was considerably dilated, rugous, and covered with atheromatous deposit, and ossified plates, but the semilunar valves were healthy, and the heart of its natural volume. It was found very difficult to determine what particular coats of the vessel were engaged in the tumour, so much were its walls thickened and otherwise altered in appearance. Indeed on many occasions great difficulty will be experienced in deciding as to whether a particular aneurism be of the true or the false variety. He had on one occasion heretofore endeavoured to bring the microscope to bear on this question, by submitting a section of the wall of a tumour to a considerable magnifying power, and examining for the characteristic yellow elastic fibres of the middle coat; and though the observation made was not quite satisfactory, he felt sure that in many instances

[a] No. xviii. May, 1850.

where the arterial wall had not undergone too great an alteration in its tissues, this mode of examination would be found very useful. From many considerations he was induced to regard the particular tumour then before the Society as a combination of the true and the false forms, the greater portion of the wall of the sac retaining all the coats of the original artery, while the highest and most anterior part appeared, as it were, a false aneurism developed on a true, the curvature of the walls of both passing *gradually* into each other, and not *abruptly*, as frequently occurs in such cases. The tumour had made its way principally forwards and upwards, and had eroded the upper bone of the sternum, all intermediate structures being compressed, and particularly the left vena innominata, which had been obliterated to within an inch of its junction with the right, this latter vein having been thrown backwards and to the right side. The trachea, œsophagus, and other parts behind the tumour, did not appear to be in the least altered by pressure. A second aneurismal sac was found opposite the fourth dorsal vertebra, about the size of a hen's egg, and oval in figure; its walls were thin, and it contained little coagulum, unlike in this respect to the other, which contained firm laminated fibrine. The second tumour was most probably a false aneurism. The descending portion of the arch, and also the thoracic aorta, presented abundant patches of atheroma. The three trunks springing from the arch were very much displaced from their natural position, but, except at their immediate origin, were little changed in caliber. Here their orifices, especially that of the innominata, were flattened from before backwards, and subjected to traction in such a way that the posterior portion of the origin of the vessel was on a plane *much higher* than the anterior, and the whole tube was flattened from before backwards, a condition which must undoubtedly have influenced the current of blood passing through.

With regard to the question of the diagnosis of the true from the false variety of aneurism during life, considerable importance was given to it by the observations of Dr. Stokes, which went to show that life might be prolonged with a far less degree of suffering, and for a longer period of time, under the first condition, or that of *true* aneurism, than under the last; and hence, if any means of correctly establishing a diagnosis between the two varieties could be devised, it would be a most invaluable addition to medical knowledge. M. Gendrin had proposed as an element of diagnosis the absence of the second sound and second impulse in the true form of thoracic aneurism, stating at the same time that the double sound and double impulse *always* attended the false form. In his paper on "The Motions and Sounds of Aneurism," before referred to[a], Dr. Lyons had endeavoured to prove the incorrectness of M. Gendrin's deductions, and to show that certain physical conditions of the sac, as to form, curvature of its walls, &c., in a thoracic aneurism, were more

[a] Dublin Quarterly Journal, *loc. cit.*

concerned in the production of the second sound and second impulse than the nature of the tumour, as to its being of the true or false variety; M. Gendrin's statement, that a double sound and impulse are to be observed in all abdominal aneurisms of the false form, being quite at variance with the observations of the Dublin School. With the exception, therefore, of the fact, in which M. Gendrin's experience quite concurred with that of Dr. Stokes, namely, that the true form of aneurism was accompanied by less suffering than the false, no means of diagnosis between the two varieties of this important lesion had as yet been discovered, and well kept records of the different physical and general phenomena presented by both during life were yet a great desideratum.—*December* 14, 1850.

Calculi in the Kidney and Bladder.—Mr. Hamilton showed a preparation in which there were calculi in the kidney, in the ureter, and also in the bladder. The patient was an old soldier aged 60, who had been wounded at Quatre Bras, by musket balls, through the arms, the thigh, and across the loins. The latter wound was, most probably, the exciting cause of that state of the kidney which led to the formation of stone. Mr. Hamilton some years since assisted Sir Philip Crampton in the operation of lithotomy on a colonel who in the forlorn hope at Badajoz had been shot across the loins, the musket ball having broken a spinous process of one of the lumbar vertebræ. Soon after symptoms of renal disease began, and ended in the formation of stone. The present patient, when admitted into the Richmond Hospital, in July last, presented the symptoms of stone in the bladder in a most aggravated form. He suffered great and constant pain at the end of the penis, which he was always pressing and pulling, to give him ease. The pain, and the incessant calls to pass water, nearly deprived him of any sleep at night. Each effort to pass water was attended with dreadful suffering and straining, the urine coming with difficulty, or drop by drop, and often suddenly stopping. The greatest pain occurred at the end, when a few drops of pure blood came away. The urine was alkaline, with deposit of pure pus, and after standing some time there was a thick, ropy, mucous deposit adherent to the vessel. He could retain the urine a very short time, and could not bear the injection of more than three ounces of tepid water. A rough and large stone was at once recognised by the sound, and when it was caught by the lithotrity instrument, it proved to be about two inches in diameter, most probably, supposing the stone to be oval, its shortest measurement.

From his age, his wretched, broken-down constitution, the frequent rigors, the tendency to vomiting, and the state of the urine, lithotomy was out of the question; the intensely inflamed, irritable, and contracted bladder, with the large size of the stone, equally forbade lithotrity. Mr. Hamilton, therefore, declined, at first, any operative proceeding; but the patient's entreaties for relief

were so urgent, that he reluctantly proceeded to attempt to break the stone in the bladder, hoping to accomplish this to such an extent in two operations as to be able to extract the fragments by lithectasy;—that is, an incision in the membraneous portion of the urethra, subsequently dilated sufficiently to admit the introduction of a small forceps into the bladder, and the abstraction of such portions of the calculus as should be too large to pass by the urethra, and whose minute fracture would require the operation of lithotrity to be too frequently performed for the strength of such a patient to bear.

The first operation was not difficult; the stone was readily caught and broken: the two subsequent ones were very difficult, from the great irritability of the bladder, and its contracted state, impeding almost entirely the proper manipulation of the instrument. The operations were followed by the passage of fragments of different sizes, making altogether the bulk of a chesnut. Two of them stuck in the urethra, and had to be cut out anterior to the scrotum; others were drawn out by Leroy's instrument, invented for this purpose. Altogether, the result of the operation, though not satisfactory, was not unfavourable. The patient's sufferings were lessened, and his constitution rather improved. At this time Mr. Hamilton went to Paris, and ten days after he left, the patient was seized with uncontrollable diarrhœa, and rapidly sank under it. Professor R. W. Smith kindly made the post mortem examination, and preserved the parts for him.

The bladder exhibited at once the impossibility of properly performing lithotrity in this case; it was so contracted as barely to admit three ounces of water; its walls were thickened, and its mucous membrane was of a plum colour, with deposition of grey lymph, showing the intensity of the inflammation. It contained, first, a large portion (the half) of a calculus, about the size of a walnut, and three fragments, a little less than a hazel nut each: the smaller portions had all been passed through the urethra. The centre nucleus was lithic acid, with a thick outer layer of the triple phosphate. The right ureter, as it ascends from the bladder, was thickened and contracted, till it approached quite close to the kidney, where it was dilated by the presence of a calculus a little smaller than a marble. In the kidney were four calculi, one large and irregular, with branches from the pelvis into the infundibula, which firmly fixed it in its position. The three others were loose in the pelvis. The other kidney was enlarged, and looked red and inflamed, but contained no stone.

It was therefore quite clear that no operation could have been of any avail in this case. It was a most interesting fact that there was no symptom during life which could lead to the diagnosis of the calculi in the kidney; no pain in the loins or down the ureter. It was, however, likely that the attacks of obstinate vomiting might be attributable to their existence.—*December* 14, 1850.

Fracture of the lower end of the Fibula, with Displacement of the Tibia inwards and forwards.—Professor R. W. Smith exhibited two casts, showing the appearances of the limb before and after the operation, which was performed to remedy the deformity arising from the above-mentioned accident, and gave the following history of the case.

James Fawcett, aged 23, was admitted into the Richmond Hospital upon the 22nd of March, 1850. He stated that, ten weeks previously, when alighting from a car, his right foot was violently twisted outwards; that he at once fell to the ground, and was rendered incapable of walking. Upon the day following the accident (which occurred in Dungannon) he placed himself under the care of a local practitioner, who told him that the ankle was dislocated; he extended the limb, and placed a roller upon it. The patient remained under this gentleman's care for eight weeks; but during this period nothing was done, except bandaging the limb; no splints were at any time applied. When he was admitted into the Richmond Hospital, March 22nd, the limb exhibited the following appearances: the external supra-malleolar region presented a remarkable curve, the concavity of which was directed outwards; the internal malleolus projected inwards considerably, and the lower end of the tibia was also thrown forwards; the foot, besides being twisted outwards, was also extended on the leg, the heel elevated, and the tendo Achillis curved, the concavity being directed backwards. When the man endeavoured to bear his weight upon the injured limb, the foot became still further twisted outwards, and its external border elevated: he could not attempt to walk without the aid of a stick, nor could he place the sole of the foot flat upon the ground: when he threw the weight of his body entirely upon the affected limb, the inner ankle appeared as if about to burst through the integuments: the upper end of the lower fragment of the fibula was drawn forwards, and had sunk in towards the tibia; the skin covering the inner malleolus had been abraded at the time of the occurrence of the accident, and an ulcer still remained in this situation.

The man (in consequence of the displacement having been left unreduced) being incapacitated from following his occupation (that of a horse-shoer), and the fracture of the fibula having become so firmly united as to render it evident that no apparatus would be adequate to restore the foot to its normal bearings with the leg, it became a question for consideration whether any operation could be performed calculated to accomplish this object, or at all events to enable the patient to place the sole of the foot flat upon the ground. Professor Smith therefore suggested to his colleagues the propriety of sawing the fibula across, at the seat of the now united fracture, and of dividing the tendo Achillis, as had been recommended to him by Dr. Hutton. This proposal having been acceded to, the operation was performed. The fibula having been exposed by an adequate incision,

and the soft parts protected by a broad spatula, the bone was sawn more than half through, and its division completed with a strong cutting forceps; the tendo Achillis was next divided in the usual manner. At 4 o'clock, P.M., the hemorrhage, which had not ceased since 10 A.M., when the operation was performed, obliged him to dress the wound from the bottom with lint soaked in turpentine. A moderate degree of fever followed, which, however, subsided after a few days, and the wound began to suppurate so freely, as to require dressing twice daily. At the end of a fortnight the limb was enclosed in an apparatus, one portion of which consisted of the side splint and cushion employed by Dupuytren in cases of Pott's fracture, by means of which the foot was gradually brought into a state of complete adduction; a second part of the apparatus was composed of a splint placed on the back of the leg, and having a foot-piece fitted to it at a right angle. A compress was placed on the front of the lower end of the tibia, and secured by a roller carried round the posterior splint, so as to press the bone backwards.

A considerable degree of embarrassment and delay occurred during the progress of the case, from the presence of the small ulcer over the inner malleolus, and also in consequence of the heel becoming blistered, although both parts were, as far as possible, protected from the effects of pressure, by circular pads.

The man remained in the hospital for a long time, but Professor Smith remarked that it was unnecessary to detain the Society by giving a detailed account of the progress of the case; and at the expiration of about five months the patient left the hospital, able to walk without a stick, and to place the sole of the foot flat upon the ground. The foot remained at a right angle with the leg, but the projection of the tibia inwards and forwards still existed, although in a much less degree than before the operation was performed; and he felt sure that had the state of the inner ankle and of the heel permitted him to continue the necessary amount of pressure, the perpendicular bearing of the tibia upon the astragalus would have been restored[a].—*December* 7, 1850.

[a] For an account of division of the tendo Achillis in certain cases of fracture of the bones of the leg, Professor Smith referred the Society to the Gazette Médicale for 1840; and also to the thirty-third volume of the Medico-Chirurgical Transactions.

REPORT

ON THE PATHOLOGICAL MUSEUM OF THE BELFAST MEDICAL SOCIETY.

BY A. G. MALCOLM, M. D,

ONE OF THE VICE-PRESIDENTS OF THE SOCIETY.

In the present paper, it is my intention to commence a series of Pathological Reports, by giving a general description of the extent and character of the Pathological Museum in the possession of the Belfast Medical Society. The origin of the Museum dates as far back as October, 1845, when the report of a committee appointed to arrange a plan for its formation was adopted, and its establishment forthwith commenced, under the directions of a joint committee, called "the Library and Museum Committee"[a]. Prior to the past year (1850), the number of specimens, collected by the contributions chiefly of the medical staff of the hospital, did not exceed fifty. Lately, however, a favourable opportunity presented itself for enlarging the collection to an extent worthy of the name. A large selection, from the museum of Mr. (late Professor) Lizars, of Edinburgh, having been forwarded to Belfast for disposal, fifty-six specimens were selected and purchased by the Society, and 198 others have been presented as a donation to the Society by Dr. Robert Bryce, who fortunately became their possessor.

The Pathological Museum, therefore, consists now of 304 different illustrations of disease, of which 205 are specimens preserved in spirit and in the dried state, and 99 oil paintings and engravings.

In giving an idea of these different specimens, I do not mean to describe each separately, as this course, however interesting to some, would be necessarily tedious, and assume too much the form of a catalogue to be of any utility. I purpose to present merely the statistical result of an analysis of the entire collection, dividing the preparations into classes of which I shall state the number, and the particular forms of disease which they illustrate, adding any peculiar facts which they may exhibit; and, having thus given a general review of what the Museum contains, I will close the present communication by referring briefly to the advantages which the collection of pathological records supplies, both to the pathological inquirer and to the practitioner.

The Museum may be conveniently considered under two great divisions: first, all those specimens of disease or altered structure which engage the body generally, or several portions of it; and, secondly, those which specially affect individual organs.

In the first we shall place all the illustrations of injuries, of tu-

[a] Since dissolved, and replaced by the appointment of "the Council."

mours, of diseases of the bones, the joints, the blood-vessels, the nerves, and the skin, and of malformations. In the second those of diseases of the brain, of the eye, of the chest, of the abdomen, and of the pelvis.

I. Injuries.—Of injuries we have thirty-six illustrations. There are eighteen examples of *fracture*, three of which penetrate joints. All but two were compound, several comminuted, and most required amputation; four instances of *dislocation*, three of these compound. In one of them (Preparation 92), compound luxation of the ankle-joint occurred in a sailor, aged 20; a portion of the astragalus was excised, and the case did well. In another (Prep. 107), there was a similar injury, which occurred in a man aged twenty-two years, in which the distal ends of the tibia and fibula, with half of the astragalus, were removed by operation,—in other words, excision of the ankle-joint was performed,—and recovery followed, with a useful joint. Of the compound fractures, one (Prep. 93) required amputation, on account of the formation of a false joint. In another (Prep. 96), the fracture penetrated the elbow-joint, with laceration of the soft parts up to the shoulder. Amputation at the latter joint was performed by Professor Lizars with success. In (Preparation 97), gangrene and death followed a complicated fracture into the ankle-joint.

Of *Gunshot Wounds* we have five illustrations. One of these (Prep. 87) is interesting from the circumstance, that the bullet was firmly encased in the tibia, and, when extracted, was as *round* as when fired from the musket. Another (Prep. 88) shows the usual flattened condition which the bullet assumes after striking the bone.

Of *Injury of Internal Organs* we have two examples: one (Prep. 26), rupture of the superior longitudinal sinus in a child aged five years; and the other (Prep. 99), the transfixing of the rectum, bladder, and peritoneum, by a flat iron rod upwards of two feet in length. In the latter, death of course followed, preceded by peritonitis.

Of cases of *foreign bodies* in the larynx and pharynx we have four interesting examples: one (Prep. 94), representing a mutton bone found imbedded in a sloughing abscess in the posterior wall of the pharynx, which was not detected during life; another (Prep. 100), in which death by suffocation occurred from a piece of carrot having dropped into the larynx; and a third (Prep. 91), the cast of a plug of cotton, by means of which suicide was effected. In Prep. 32 we have an instance of the effects of homicide, in which the carotid artery, jugular vein, and pneumogastric nerve were divided. Besides these, we have (in Drawing 39) the case of a boy whose entire arm was torn off by machinery, and who nevertheless recovered; and in Prep. 95 we have a rare specimen of a portion of an amputation knife broken off by an hospital surgeon while in the act of transfixing the limb.

It is always interesting to notice the efforts of nature in the repair of injuries, for by this observation we arrive at a knowledge of what will probably be the result in any given instance. A frac-

tured bone does not always heal by osseous union, either on account of the vascular nature of the part involved, or on account of some defect in the management. Thus in Prep. 106 we have a fractured clavicle united by ligament or by fibrous tissue; and in Prep. 102 we have a fractured olecranon, in which no ossific union had taken place. On the other hand in Prep. 174 we have a beautiful example of the repair of fractured frontal bone; and in Prep. 164 we have an assumed instance of bony union within the capsule, after fracture of the neck of the femur. I say *assumed*, for ligamentous union is the rule, as may be readily proved by a reference to published cases. Thus, of ten cases of fracture of the neck of the thigh bone within the capsular ligament, published by Mr. Lang staff, in the thirteenth volume of the Transactions of the Royal Medico-Chirurgical Society, in nine there was union by ligament, and in one only by bone; and in eight other cases published in his catalogue, four were united by ligament, two partly by bone and partly by ligament, and in the two others no union at all had taken place; so that the instance referred to here of apparent ossific union must be considered doubtful.

II. Tumours.—Of these we have thirty-four specimens, sixteen malignant, of which four exhibit the *scirrhous* form of cancer, and twelve the *medullary*. We have scirrhus of the rectum (Prep. 125), in which recovery followed removal; of the glands of the neck; of the tongue; and a rare instance (in Drawing 55) of the breast of a male. The *medullary* cancer we observe in the neck, the palate, the antrum, the intercostal muscles, the knee-joint, the hip-joint, and the testes. In Prep. 124, the tumour which occupies the antrum maxillare of a woman, aged forty-five years, was removed by operation, and recovery followed. Of the eighteen *benignant* tumours, we have examples of most of the forms. Thus, we have four cartilaginous, four of osteosarcoma, two encysted, two fatty, one cystic, one fibrous, one vascular, one of inflammatory hypertrophy, and one (Drawing 44), in which instance a chronic abscess was mistaken for aneurism of the carotid artery.

We have thus a fair average collection of the different varieties of tumours; and, when we consider the difficulties of diagnosis which beset our examinations in the living subject, we must see the importance of the advantage which the study of a large collection must supply to the practitioner, as it is only by a careful comparison of the symptoms and appearances, and the actual indications of a large number of tumours, aided by the use of microscopic investigation, that we can ever arrive at accuracy in diagnosing tumours as they appear to us in actual practice. But, to render this collection valuable to its utmost extent, it would be necessary to be supplied, not merely with the actual tumour and a record of the symptoms, but also with a sketch of it as it actually existed *in situ* during life, and a knowledge of the history of the case from its very commencement.

III. Diseases of the Bones.—Of these we have thirty-one spe-

cimens: three of simple inflammation, in which the bone is hypertrophied and roughened; six of caries, two of abscess, three of exfoliation, three of necrosis, nine of exostosis, and four of alterations or abnormal changes, not precisely morbid,—such as extraordinary prominence and depression of parts of the skull. Of these specimens, one of the most interesting is Prep. 199, in which we have the entire clavicle, that had undergone necrosis, in a boy aged 6, and was removed by operation, with complete recovery; and another (Prep. 171), consisting of extensive exostosis of the bones of the leg and tarsus, with remarkable bony union, to a considerable extent, of the tibia and fibula.

IV. Affections of the Joints.—Of these we have nineteen examples: two instances of erysipelas of joints; one in a case of necrosis of the contiguous bone, and another terminating in anchylosis; one of disease of the synovial membrane, which is studded with tubercles; one with millet-seed cartilages, which were removed from a large bursa at the wrist-joint; four cases of ulcerations of the cartilages, in one of which excision of the elbow-joint was performed with success; one of disease of the hip in its most advanced stage; five examples of the porcelainous deposit; and five of anchylosis, two of which are in the incipient state.

V. Diseases of the Spine.—Of these we have nine specimens, seven representing the different forms of curvature; one of these (Prep. 58) with complete anchylosis of the twelve dorsal vertebræ, and one (Prep. 65) with complete destruction of the eighth and ninth dorsal vertebræ. Preparation 61 shows disease of the atlas and dentata, with absorption of the transverse ligament; and Drawing 76 exhibits lumbar abscess, which, as Sir B. Brodie has shown, is almost always associated with caries of the vertebræ as its cause.

VI. Malformations.—Of these we have twelve specimens: three of rickets, one of club-foot, one of encephalocele of the posterior lobes of the brain, one of congenital hernia, one of hare-lip, with fissured palate, two of malformations of the genital organs of the male, and one, a rare instance, of ligamentous fibula (Prep. 163); and (Prep. 15) a unique specimen showing the vena azygos situated on the right side of the aorta, and receiving the blood of the lower extremities, while the vena cava receives that of the portal system only.

VII. Diseases of the Blood-vessels.—Of this class we have eight illustrations: two representing the calcareous deposits and changes which occur in the coats of the aorta in advanced years; and six representing the pathology of aneurism; one of which (Prep. 128), is a beautiful specimen of aneurism of the ascending aorta. Drawings 19 and 41 represent Mr. Wardrop's celebrated case of aneurism of the arteria innominata, in the person of Mrs. Denmark, in which the operation of tying the carotid was performed without success.

VIII. Nerves.—Of diseases of the nerves we have only one specimen (Prep. 34), a tumour of the median nerve.

IX. Skin.—There are eight examples of diseases of the skin:

one, erythema of the leg; one, inflammation of the lymphatics; one, erysipelas; one, phagedenic ulceration; one, gangrene; one, impetigo; and two, lupus.

PARTICULAR ORGANS.

I. The Brain.—We now come to examples of the diseases peculiar to individual organs; and, first, we shall take the brain and its membranes. Among these, we have some very interesting specimens. Thus, Prep. 207 is an excellent example of recent apoplexy, a very large clot being well observed in the corpus striatum and in the lateral ventricle. Preparation 27 gives us an instance of recovery from an attack of apoplexy, the clot having been converted into a cyst, which may be seen situated on the left side of the cerebellum. Palsy of the *same* side had occurred in this case. In Prep. 30 we have ulceration of the dura mater, the result of injury by a trephine in the hands of an hospital surgeon.

The other specimens represent chronic disease (as in Prep. 28), scrofulous tubercles in the case of a child, aged 3; in Prep. 208, softening of the brain, of the sanguineous form; and in Prep. 35, an instance of a tumour attached to the mesocephalon or pons Varolii. The patient in this case died of epilepsy.

II. The Eye.—Our Museum is rich in illustrations of diseases of the eye. Of these we have thirty-five: five of diseases of the conjunctiva, embracing purulent ophthalmia, pterygium, and tumour; two of diseases of the eye-lid; eleven of affections of the cornea, comprising opacities, ulcerations, tumours, and the effects of lime; one of inflammation of the aqueous humour; ten of affections of the iris, including lacerations, inflammation, adhesion, and artifical pupil; one of glaucoma; two of true cataract; one, wound of the capsule; one of fistula lachrymalis; and one of tumour of the orbit.

III. The Mouth.—Of affections of the mouth we have only three specimens; one being the capsule of a ranula; a second representing a large vascular tumour of the tongue; and the third being a calculus removed from the parotid duct.

IV. The Larynx.—Of the affections of the larynx, we have three specimens: two representing œdema, and one ulceration; besides an example of cirrhosis of the thyroid body.

V. The Lungs.—There are twelve specimens of diseases of the lungs: five of pneumonia in different stages; four of pleurisy, recent and old, with and without adhesions; three, phthisis in the last stage; and one, an instance of pneumothorax, arising from the bursting of a tubercular cavity into the pleura. Among the pleuritic specimens, there is one (Prep. 48) of empyema, which occurred in a child aged 4, interesting from the efforts of nature towards relief by perforation of the intercostal spaces at three points, one as high up as the *third* space. An apparent abscess presented itself immediately above the nipple. The lung was condensed and atrophied to an extraordinary degree.

VI. The Heart.—Of heart diseases we have six examples: four representing acute pericarditis; one, chronic ditto, with hypertrophy; and another representing disease of the aortic valves, with extraordinary dilatation of the left ventricle. In this latter case, gangrene of one foot had set in a short time before death.

VII. The Stomach.—We have only three examples of diseased stomach: one, a very interesting instance of the recent effects of arsenic; the second, of scirrhus of the pylorus; in this case there was also the same disease, with stricture in the colon: and the third exhibits adhesion of the stomach to the transverse arch of the colon, and ulcerative communication between the two cavities.

VIII. The Intestines.—There are eight specimens of diseased intestines: one, of acute peritonitis; one, of intussusception, which occurred in an infant; four examples of ulceration, one occurring after strangulated hernia; another associated with diseased mesenteric glands highly charged with scrofulous deposit; a third occurred in connexion with an enormously distended colon, which, simulating ascites, was tapped six months before death; and the fourth case represents an ulcer of the ileum cicatrized. The remaining two represent dissections of hernia; one, of the neck of the hernial sac, and the other (Prep. 77) is a valuable dissection of inguinal hernia, prepared personally by Sir Astley Cooper, and intended by him to illustrate the anatomy and importance of the *fascia transversalis* in Lizars' Anatomical Plates, in which may be seen two drawings of the preparation.

IX. The Liver.—There are seven specimens of hepatic disease: two of the gall-bladder, and five of the liver itself. In one of the former, the coats are excessively thickened, and surrounded with extensive cartilaginous deposit, in connexion with cysts containing gall-stones, and adherent to the colon. This case was interesting from the fact, that the symptoms during life simulated very closely disease of the stomach; which, however, was found after death to be in a normal state; and, in the other case, the bladder was distended with gall-stones, some of which occupied the duct. Of the diseases of the substance of the liver, we have three specimens of inflammation, one of acute hypertrophy, and two of chronic induration; besides which there are two examples of cirrhosis, which in one supervened after jaundice, and in the other was associated with granular kidneys and psoas abscess.

X. The Spleen.—We have but one instance of diseased spleen, in which the peritoneal coat is alone affected, being in a cartilaginous state.

XI. The Kidney.—There are three specimens of diseased kidneys: one containing a large cyst; a second, an example of Bright's disease; and the third, inflammation of the pelvis, which was connected with stricture of the urethra and inflamed bladder. There are three urinary calculi, one of great size, fully as large as an ordinary hen-egg.

XII. Genital Organs.—Of diseases of these organs we have

eleven specimens, six of which occurred in the male, and five in the female. Of the former, we have two instances of scrofulous testis, one of hydrocele, one of hematocele, one of circocele, and one of paraphymosis. Of the latter, we have two tumours of the labium, one of the cervix uteri, and one of scirrhus of the uterus. In connexion with these genital diseases, we may conveniently arrange the instances of

XIII. Syphilitic Disease.—Of it there are eight specimens: six of these are diseased bones, such as caries and necrosis of the cranium, destruction of the palate and nasal bones, exostosis of the femur, tibia, and fibula, and (Prep. 59) a very important specimen, representing caries of the atlas and dentata, with destruction of the sheath of the spinal cord, which in this case caused death. The two remaining cases exhibit a testis inflamed during gonorrhœa, and a penis destroyed by ulceration.

Besides the above, there are thirty drawings exemplifying the different operations of lithotomy, lithotrity, amputation, and those for strangulated hernia and aneurism. There are also nine drawings descriptive of the normal anatomy of the arteries, and of the region of the neck.

In reference to the advantages attendant upon a pathological museum, a few words may suffice. First, there can be no doubt upon the mind of any person, that, as subjects of study and reference in his inquiries, the specimens of morbid anatomy collected in a large museum are invaluable to the pathologist. He whose object is to search among the traces of its progress which disease leaves in the human frame, with a view to arrive at a knowledge of morbid phenomena, the sequence in which they occur, and, if possible, the laws by which they are regulated, can derive, by the aid of the scalpel, the microscope, and test-tube, the only real data for his researches. Let us illustrate this by a reference to the manner in which we might suppose he would enter upon his inquiries into the pathology of an epidemic dysentery. Numerous cases are recorded, presenting closely similar phenomena, and a similar order. He examines the intestines in the fatal cases; he notes the changes from health which are to be found in the mucous membrane and the other coats; he observes what portion of the intestine is uniformly more or less affected; he examines, chemically and microscopically, the fluids which sheathe the surface, to ascertain their composition; and, after an extended observation, should he find invariably present a certain change of structure and a certain change of secretion, associated with a certain series and order of symptoms, then he has a Baconian right to infer that he has discerned the morbid anatomy of a certain form of epidemia. In this manner, and not by concocting theories at the desk,—in this manner, and this *alone*,—can any real advances, deserving the name of science, be attained in medicine. Yet, although the study of morbid anatomy, and, accordingly, a constant reference to the contents of a museum, may be admitted as indispensable to the pathological inquirer, still it may be

asked, "Of what use is a pathological museum to the busy practitioner, whose time is swallowed up by the routine of his profession?" This is taking an extreme case: to such even books can be of little service, because little consulted. There are none among us so busy as to be bereft of all opportunity for study, by which we can in some degree keep pace with the mighty strides which the science of medicine is yearly making. Let us then not consult books alone, which give us merely the thoughts and opinions of other men, and the faint records of the past; but let us consult as well the authority of *nature*, who provides, in the relics of humanity, an endless series of proofs of the laws which govern disease.

MEDICAL MISCELLANY.

Postscript to Dr. Graves' *Paper on Cholera, Published in the Number of this Journal for November*, 1850.

The progress of cholera since I last wrote upon the subject furnishes, in my opinion, facts of great importance, affording additional proofs of its contagious nature. On a former occasion I ventured to predict that the rapidity of communication between distant countries, the consequence of steam navigation, would, in all probability, greatly facilitate the migration of cholera. This prediction has been verified, and many parts of the world so distant from the nearest infected ports that the duration of the voyage by sailing vessels afforded full time for the cessation of infection, and thus formed a full and effective quarantine for their protection,—these very parts have now suffered in consequence of the introduction of steam navigation, which so abridged the time occupied in the passage, that it no longer formed a sufficient safeguard. For this reason cholera has now visited the West Indies, where the following account shows that it has raged with unusual severity:

"The cholera in Jamaica has been the most frightful scourge that has afflicted for many years any country in the western world. The tropical climate of Jamaica, the filthy and indolent habits, and the ignorance and superstition of its coloured population, the general poverty, and the unprepared state of the inhabitants for the visitation of a plague, have been the causes which have made one of the most beautiful islands in the Caribbean Sea a scene of unutterable woe and desolation. On the 7th of October last Mr. Watson, the surgeon of the naval hospital in Port Royal, announced that Asiatic cholera of a malignant type had made its appearance in that town. Immediately after that, on the recommendation of Dr. Beveridge, the surgeon of Her Majesty's ship Imaum, the Commodore of the British fleet ordered all leave to go on shore to be stopped,

both for seamen and officers; fish and fruit were forbidden to be tasted on board ship, and every man was examined to see that he wore flannel next his skin. To these precautions may be attributed the comparatively healthy state of the crews during the terrible mortality on shore. When Mr. Watson first announced the existence of Asiatic cholera in Jamaica, the inhabitants were incredulous. Facts soon convinced them, however, of its truth, and at the urgent request of Mr. Watson plans were devised to stay the plague. A cholera hospital was established, and some of the surgeons of the fleet were sent ashore to assist. Government medical stores were distributed freely, but it was soon found that both the quantity of medical stores and the number of medical men were totally inadequate to the frightful extent of illness and suffering that prevailed. It is known that upwards of 5000 persons have died in Kingston and Spanish Town alone; but it is impossible to state how many have actually died. Numbers were so panic-stricken, that they would not apply for assistance, and no one knows that they have been ill and died. Some were found dead in cellars, where they had been lying dead for days. The muscular movement of the body after death, in cases of malignant cholera, has been the cause of the utmost alarm amongst the inhabitants, and contributed to their panic-stricken state. They refused to bury the dead, for fear of burying them alive.

"One of the most distressing things in Jamaica is the number of orphans, both black and white children; and their condition and future provision are now occupying the serious attention of the Jamaica authorities. Hundreds of children of tender age are left utterly destitute; for fathers, mothers, brothers, and sisters have been swept away by the pestilence. They are to be seen in houses, forlorn and helpless. Infants are found lying on the floor, forsaken by friends and relatives, for they are sleeping in death, and these innocents are kept from perishing by the visits of the benevolent. In the cholera hospital a gentleman saw an infant a few months old, whose mother had died there, kept alive by an aged black man; he fed the infant daily with milk sent for that purpose by some benevolent clergyman. The panic-stricken state of the poorer inhabitants is truly marvellous. A medical man dragged out a poor afflicted creature from a most filthy hole, where he was on his knees praying to God to spare his life. The same gentleman saw seven poor frightened creatures rubbing with turpentine five others in the last stage of cholera. Nearly the whole of these persons were corpses in a few hours afterwards.

"Although there are many rich individuals in Jamaica, yet, generally speaking, there is not wealth enough to pay for the expense attending this dreadful and wide-spread calamity. One day upwards of £1600 was subscribed for medical assistance and relief, but this was nothing, as it were, compared with what was required. Mr. Nethersole, a magistrate, entreated Mr. Currie, the agent of the Royal Mail Steam Packet Company at Jamaica, to let the mail steamer go to Porto Rico or St. Thomas for drugs, and he became answerable

for the expense of obtaining 50lbs. of opium and 50lbs. of calomel. Mr. Currie went himself in the steamer to obtain the requisite drugs. This was about the latter end of the last month.

"The dread of cholera in Jamaica seems to have destroyed all the social affections. Some of the poor blacks have been found to place their dead relatives before the doors of their neighbours, to avoid the infection, or because they were unable to pay the expenses of burial. It was urgently suggested that trenches should be dug, and that corpses should be buried without coffins, in order that the expense of the latter should be saved, and go towards providing an orphan fund.

"On the 16th ult., the day after our latest advices left Jamaica, *via* America, the Jamaica journals indignantly complained of the unwillingness of persons to assist others who were attacked with cholera, and made the most piteous appeals to the humanity of the former to be kind and humane to their suffering fellow-creatures. The Kingston journals, also, of that date, recommended large fires to be lit, and kept constantly alive, in the centre of the town and in the burial grounds, to drive away the pestilence.

"LATER FROM JAMAICA.

"We have received by the Europa intelligence from Jamaica to the 1st November.

"We regret to learn that the cholera continues to make the most fearful ravages throughout the British West Indies. It has been very fatal at Kingston, Jamaica, but is now more severe in other parts of the island. Kingston is reported to have lost 5000 by that disease (six or seven of the ablest physicians in the town have fallen victims), and a proportionate number at Port Royal; it has entirely disappeared from the latter place. The most melancholy accounts are received from the agricultural districts. The *Journal* says that in Plaintain Garden River district 1000 persons have been swept away by the fell destroyer. It states that—

"'From St. David frightful accounts have been brought to town. Not only have the great mass of the population between the Eleven Mile Tavern and Yallah's, and a large number of the inhabitants in and around Elsington, been swept away, but it is said that the whole police force, sergeants, corporals, and privates, have been immolated, the whole force dying, as it is said, under literal want of sustenance, in consequence of the non-payment of their pay. The statement has been made for some days in the columns of a contemporary, and has not been denied. It is, impossible, however, that such a charge can long escape inquiry. The money, we have reason to believe, was forwarded from Kingston, and some one must be responsible for its non-distribution. It is a thing too frightful to contemplate, that an entire detachment of police should have been left to die of cholera, without even the comforts derived from their hard-earned pay.

"'In the mountain districts of the same parish the cholera is

said to be equally destructive. It has appeared at Radnor, a property upwards of 3000 feet above the level of the sea, and the finest climate known, and it has touched similar altitudes in the parishes of Port Royal and St. Andrew. It has been frightfully malignant at Middleton coffee plantation, the property of the Duke of Buckingham, and it has manifested itself at Charlottenburgh, Chester Vale, Newton, and other properties, all situate at an altitude that has hitherto defied febrile diseases.'

"Another account states that, 'When any one of them is attacked with the disease, he or she is at once forsaken by father, mother, brothers, sisters, and left to the white people to attend to them as they best can. One unnatural mother, when an infant three years old was attacked and carried to the hospital, having been requested by the manager to go and attend to her child, replied coolly that the child might die, but she was not going to risk her life for the sake of a child. The result has been that she was last night herself attacked, and died at 4 in the morning, and the child is recovering in the hospital. Indeed, unless you were on the spot, you could hardly conceive the want of feeling displayed by the people towards each other. I have been compelled to pay five shillings before they would strike a hoe to inter the dead. I am sorry to say the disease has broken out afresh at Winchester, and I hear of thirteen deaths at Bath, several at Holland and Duckenfield, as also at Stokes Hall, Hampton Court, Pleasant Hill, and Phillipsfield.'"

In the preceding statement some facts are mentioned which deserve especial notice. First, in Jamaica, as elsewhere, cholera made its first appearance in the ports, and among the portion of the inhabitants which has most intercourse with the shipping. Secondly, it spread with great rapidity amidst the dense population of the town. Thirdly, it is particularly to be remarked as being directly opposed to the miasmatic hypothesis, that the cholera reached Radnor, 3000 *feet above the level of the sea, and the finest climate known*, and touched similar altitudes in the parishes of Port Royal and St. Andrew. Fourthly, it manifested itself at Chester Vale, Newton, and other properties, all situated at an altitude *that has hitherto defied febrile diseases.* This last circumstance is of great importance, and becomes more significant when we bear in mind that the febrile diseases here alluded to are remittent, and also yellow fever, which in Jamaica confessedly arise *from miasmatic influences.* Fifthly, I have to add that it appears from other accounts that the pernicious habit of waking their deceased relations was persevered in by the coloured population of Jamaica throughout this epidemic, and must have contributed materially to the diffusion of the disease.

In conclusion, it can scarcely have escaped the observation of my readers, that San Francisco, the sea-port of California, was infected from the Republic of Mexico by means of an American ship. In this case the disease had travelled, first, southward from the United States, then eastward across the mountains of Mexico, and lastly, northward by sea to California.

R. J. Graves.

December 30, 1850.

Case of Erysipelatous Laryngitis, in which Tracheotomy was performed. By Josiah Smyly, A. B., Surgeon to the Meath Hospital and County of Dublin Infirmary, &c.

When erysipelas attacks the throat and spreads to the larynx, it causes œdema of the glottis, closing the rima, and suffocation must be the result, unless an opening be made in the trachea for the admission of air into the lungs.

Tracheotomy, as warranted in such circumstances, is spoken of by authors in terms so discouraging as to deter the surgeon from the performance of it; and my object in narrating the following case is, to show that erysipelatous laryngitis is not so hopeless as we are taught to consider it, and that, even under unpromising circumstances, a happy result may be obtained by having recourse to this operation.

Professor Porter, in his admirable "Observations on the Surgical Pathology of the Larynx and Trachea," at page 95 of the second edition, remarks as follows:—"It occasionally happens that erysipelatous inflammation attacks the larynx and trachea, and produces symptoms of dyspnœa of a singularly formidable character. In the winter of 1835-36, erysipelas prevailed to a very considerable extent in the Dublin hospitals, and many examples occurred of its seizing on the throat, either by apparently spreading to it from the head and face, or by some species of metastasis, the disease subsiding externally on its engaging the internal structures. Amongst all these cases I have not heard of a single recovery; neither do I suppose such to be possible, considering the low and typhoid character of the fever. In most of these, the submucous cellular tissue was found extensively infiltrated with putrid matter. I am not at this moment aware that bronchotomy was performed on any of these patients, although I knew it was proposed with reference to three; and, if it had been, I cannot by any means imagine it could have been attended with success."

Again, at page 97, he says:—"In the absence of evidence of incurable disease, the surgeon is right who seeks to relieve the prominent and distressing symptoms of difficult respiration. He fails, certainly, but he does so with the consolation of having performed his duty to the utmost of his ability."

Mr. F. Ryland, of Birmingham, writing in 1837, illustrates the pathology of erysipelatous laryngitis by seven cases; with regard to the operation he says, at page 31:—"We cannot anticipate much success from the operation in cases of erysipelatous laryngitis, because the erysipelas, having existed for some days previous to its attacking the larynx, will have considerably lowered the powers of the system, and perhaps impaired the condition of the brain. Whether these results might be prevented by the early performance of the operation in question is at present doubtful; but, considering the inadequate relief afforded by other means, it would be right to give the patient the benefit of the doubt."

On the 18th of May, 1850, I was called upon to visit Mrs. S——, aged 63, who was supposed to be on the point of suffocation. I was supplied with the following history of her case by Dr. Leech, who was previously in attendance on her. On the 11th of May she had feverish symptoms, and on the 14th complained of soreness of her throat. Her daughter had just recovered from diphtheritis affecting her mouth and throat; and this appeared to be a similar affection. On the 16th, Dr. Leech was called in; she had then great difficulty in swallowing, and her breathing was slightly affected; the larynx was tender to the touch, and the inside of the mouth and throat was covered with a white membraneous coating. Leeches, calomel, and Dover's powder, and a cathartic, were prescribed.

18th. All the symptoms were aggravated; she complains of soreness in one nostril, and stiffness of the eye-lids, and her breathing became so laboured towards evening that a consultation was requested, to consider the propriety of opening the trachea; but leeches and calomel, prescribed in the mean time, were followed by such relief that it was considered prudent to defer the operation till the following morning.

19th. Early this morning her breathing became so difficult that immediate suffocation was dreaded; the erysipelas had extended from the nostril to the face, engaging the nose and right eye-lid; her distress was so great that she eagerly embraced the hope of relief that was held out to her by the operation; her sufferings were greatly aggravated by the swollen state of the epiglottis, which was incapable of performing its functions, so that fluids made their way into the glottis, bringing on violent struggling for breath. The distress she suffered from this was so great that. notwithstanding a burning thirst, she had abstained altogether from fluids for the last twenty-four hours.

At 10 o'clock, A. M., assisted by Dr. Leech, Dr. Davy, and Dr Barker, the operation was performed, and a silver canula was inserted into the trachea, when immediate relief from all the urgent symptoms was obtained.

20th. Breathes freely through the canula; slept a good deal during the night. The erysipelas has spread, and extends all over the right ear, where the cuticle is raised in blisters. Fluids taken by the mouth still get into the larynx, and are discharged by the canula; they do not, however, now cause the same paroxysms of suffocation. She was ordered bark and wine.

21st. Erysipelas extending; pulse, 120.

23rd. Improved; had a good night. Erysipelas has not spread since yesterday; the whole face is now engaged; no raving; pulse 108; strength increased. The rima glottidis seeming to be open, the canula was withdrawn. Liquids can now be swallowed without difficulty.

24th. Breathes freely, both through the rima and wound, which has been left open; had a restless night; pulse 120; is drowsy, and slightly delirious.

25th. Had a good night; pulse, 92; great drowsiness.

29th. Has continued steadily to improve since last report. The lips of the wound were drawn together with adhesive plaster this day.

December, 1850. It is now more than six months since the operation was performed, and Mrs. S—— has enjoyed excellent health from the time of her recovery, and has felt no inconvenience whatever resulting from it. The wound healed readily, and she convalesced rapidly after the last report given above.

Singular Case of Obstruction of the Bowels; with some Remarks upon the Use of Tartar Emetic in Cases of obstinate Constipation. By Thomas Purefoy, M. D., Physician to the Fever Hospital and Dispensary, Cloughjordan, County Tipperary.

On November eve, 1850, a healthy farmer, aged 58, came in at a late hour to supper, after a day's hard work, and partook freely of frumenty, or boiled wheat, a little before going to bed. On the following morning he resumed his ploughing, but had not been long at labour when he felt a desire to relieve his bowels. The effort to do so was, however, incomplete, as he merely passed some grains of wheat and flatus, and returned to work with an unpleasant sense of fulness in the rectum. During the 1st and 2nd of November he was much distressed by frequent, painful and ineffective efforts to relieve the lower bowel; he had a distinct sensation of something solid and unyielding being impacted in the cavity of the intestine, forming a complete obstruction there, at the same time that it provoked the painful and fruitless efforts to unload the bowel already described. He was first visited on the morning of the 6th instant, at half-past 7 A. M., when he stated the facts just now detailed; he further complained of pain in the back, loins, and thighs, with a total inability to void either urine or fæces. The tongue and pulse were little altered from the healthy state; abdomen slightly tympanitic, but neither tender nor painful; the bladder had been emptied during the night, and he did not suffer from painful over-distention of it, nor could it be detected above the pubis.

An attempt was now made, with only partial success, to introduce a long flexible gum-elastic tube into the rectum; the instrument having been stopped at about seven inches above the anus. Tepid water was then thrown up, but not retained; but in its return it brought away a small quantity of soft and swollen wheat, whole and undigested, at the same time inducing a return of the painful, forcing efforts to unload the bowel.

During the day, three pills were administered, each containing one drop of croton oil, in combination with calomel and the compound colocynth pill; milder purgatives had been already tried in vain. At 6 o'clock in the evening the patient was frantic with pain; the bladder and rectum full to bursting; most distressing pain in the loins, hips, sacrum, and thighs, with occasional attacks of vio-

lent cramps in the lower extremities; pulse quick; tongue natural; abdomen tympanitic, but not tender; face pale, and expressive of much distress and suffering. No position afforded relief, and the poor sufferer writhed upon his bed or upon the floor, or walked wildly about his bed-room, screaming with pain, or crying piteously for relief. These very acute attacks of pain and suffering being paroxysmal, during a moment of comparative ease, or lesser suffering, the catheter was introduced, and a large quantity of urine drawn off; shortly afterwards, having rested for a few moments with the body bent forwards, and the face and chest resting upon the bed, an examination of the rectum was made with the finger, when a soft, tenacious mass was found to fill up the intestine completely, at a little distance above the sphincter ani. Another attempt was now made to throw up tepid water into the intestine by means of the tube and large syringe, with the view of dilating this part, and aiding the expulsive efforts by softening the contained mass. The fluid passed more freely, and when about a pint of water had entered the bowel, the straining and expulsive efforts were renewed with extreme violence. At this crisis, a compact mass or ball, of soft, swollen, glutinous wheat, was found to press strongly against the sphincter ani, but of such a size that the sphincter was thereby excited to contract violently, completely close the anus, and so prevent its expulsion. A scoop was now passed gently into the rectum, and by a continued rotatory motion made with this instrument, the "monster mass" was moulded and elongated into such a convenient form, that the violent efforts of the patient soon succeeded in expelling a large quantity of wheat, which had a very offensive smell, much resembling that of old barm, and evidently the result of a fermentative process commenced in the farinaceous mass, which had now been *in transitu* through the alimentary canal during a period of about six days and nights. Immediate and decided relief followed; the scoop was laid aside, and in half an hour another free discharge followed; it was produced by the natural efforts merely, and consisted altogether of wheat, mixed with a sour-smelling fluid resembling stale barm. The patient again refreshed himself in a tepid salt water bath, which he had twice used during the day, and from his bath, returned to his bed, happy and thankful, where he enjoyed a quiet night's rest. It was remarkable, that, until the last twenty-four hours of his illness, this man suffered comparatively little pain, took some food, and slept occasionally.

The injurious effects of a large meal of indigestible food, taken at an unseasonable hour and under very unfavourable circumstances, were fully manifested in this case. The man had worked hard during the day, and fasted for several hours in the afternoon; then, just before going into bed, he ate heartily of boiled wheat. A long and heavy sleep followed, and on the next day the undigested food produced considerable intestinal irritation, with frequent urgent calls to empty the bowels. A small quantity of wheat was passed, per anum, quite whole, and undigested; the lower bowel, at the same

time, being so much irritated as to occasion distressing tenesmus. When the wheat ceased to be voided, the cause of irritation was over; tenesmus was no longer troublesome, and decided constipation followed, as undigested food accumulated in the colon. Some doses of purgative medicine were employed in vain, so that, when visited on the 6th instant, the patient was found to be suffering much from obstruction of the bowels, complicated with retention of urine. Remedial means were at once employed to overcome the obstruction, and effect the expulsion of the contents of the bowels; whilst it was hoped that the action of the purgative medicine might stimulate the bladder to contract and empty itself. After the lapse of about twelve hours it was found absolutely necessary to relieve the over-distended bladder, and also to devise some means for promoting the speedy evacuation of the bowels, more efficient than any that had hitherto been employed. The bladder having been emptied, the rectum, being examined by the finger, was found to be much distended by a large, soft, but very tenacious mass, which by its presence induced most painful, violent, but ineffective straining and expulsive efforts. This mass was occasionally forced down upon the sphincter ani, producing such violent contractions of this muscle as served completely to prevent its egress through the anal orifice. These violent expulsive efforts being opposed and counteracted by the antagonistic action of the sphincter, occasioned indescribable suffering to the patient. With a view to facilitate the expulsion of the contents of the rectum, by altering the form and lessening the bulk of this mass, and at the same time resisting mechanically the spasmodic closure of the anus, a scoop was employed, as above described, and fortunately with the desired effect. The retention of the urine was a most troublesome and serious complication, and might, perhaps, have been occasioned by the pressure of the over-distended rectum upon the prostate gland and neck of the bladder; or possibly the sphincter muscles at the neck of the bladder, sympathetically took on a spasmodic contractile action, similar to that of the sphincter ani.

It was remarkable that this unwholesome food should have passed the pylorus and ileo-cæcal valve, and finally be retained in the colon, where it was evidently moulded into soft, tenacious balls, or rather masses, and had undergone a partial process of fermentation, before it was finally expelled.

Two Cases illustrative of the Effects of Tartar Emetic in obstinate Constipation of the Bowels.—A young man of active and industrious habits (being in good health at the time) became indisposed and feverish. He remained in bed, and used repeated doses of mild purgatives, but without the desired effect. The most active purgatives were subsequently given, but they proved wholly inefficacious. Fever, thirst, tumefaction, and tenderness of the abdomen set in, after the existence of constipation for about three days, during which period several active purgatives were judiciously employed, without any benefit whatever. Under these circumstances, the one-eighth of a grain of tartar emetic was administered in camphor mixture, at

short intervals, so as to keep up a constant state of nausea. Its use having been continued for about twelve hours, the patient became much prostrated, and while in this state the bowels were freely moved. No unpleasant result whatever followed, and convalescence was quickly established.

Case II.—A poor woman, aged 50, who had been for many years subject to obstinate constipation, accompanied by much pain, thirst, vomiting, and tympanitis, had a return of one of these attacks during the summer of 1850, to relieve which she employed a variety of active purgatives, but in vain. Croton oil was subsequently exhibited, and afterwards the tobacco enema, but without moving the bowels. At this juncture, tartar emetic was employed, as in the preceding case, and with the best effect, as the bowels were freely opened in a few hours. The patient was decidedly relieved, and for two days there were good hopes of her recovery; however, low fever, thirst, and diarrhœa set in, and in a few days terminated her existence.

The preceding cases afford satisfactory proofs of the efficacy of tartar emetic in removing obstinate constipation of the bowels, even where the most effective remedies usually employed in such cases have failed. Although the second case terminated fatally, yet the tartar emetic succeeded in removing the obstinate constipation which had existed for several days; and there is little doubt that death was the result of chronic disease of the bowels, aggravated and rendered acute by the occurrence of this last illness. Tartar emetic would appear to be a more manageable, and less dangerous remedy, in cases similar to those stated, than the tobacco infusion; and even where there is reason to apprehend the existence of chronic disease in the bowels, the cautious administration of tartar emetic as here recommended can scarcely be attended with any risk.

Case of Spontaneous Cure of a Tumour in the Rectum of a Child which was treated for Prolapsus Ani. Reported by W. D. Moore, M.B.

In March, 1850, I was consulted by Mrs. E. about her son, a remarkably fine and healthy boy, then aged between four and five years. She stated, that at the time of each alvine evacuation the gut protruded, and the case was considered to be one of prolapsus ani. Under the use of an astringent lotion and the other ordinary means, the symptoms subsided, but returned in the course of the summer, when Dr. Johnson was consulted. The supposed prolapse continued to occur every time the child went to stool, until 1st December; it was easily returned, and never took place except when the bowels were moved. In consequence of this, and his subsequent absence from town, the prolapsed part was never seen by any one except the mother or nurse. Slight hemorrhage occasionally occurred, but the child enjoyed good health; his bowels were regular, and his appetite good; yet, although he had the advantage of spending the

autumn in the South of Ireland, at the sea side, he looked less healthy than he had done before he became liable to this affection. On the 1st December, immediately after having been at stool, something dropped from him, which was found to be a hollow fleshy tumour, of a firm consistence, about the size of a cherry; and on examining him, no trace of the prolapse could be discovered. When the bowels acted next day a quantity of clotted blood was passed, and nothing like prolapse has taken place from that time to the present date.

Tumours in the rectum are extremely rare in such young children; and I believe there has hitherto been no case recorded in which nature was able to accomplish a spontaneous cure. It is not easy to say how the separation actually occurred; it could not have been by constriction of the sphincter, as the tumour was always immediately and readily returned, and for this reason no force capable of effecting its separation was ever employed; neither was the appearance of the tumour such as to lead one to attribute its removal to either of these causes.

I have been induced to place this case on record because it is one of very rare occurrence, and because it shows the necessity of making, under such circumstances, a careful investigation, and of not relying on the reports of the friends and attendants. In consequence of the facility with which the tumour was always returned, and of the child having been for several months out of town, we had not an opportunity of examining it, or, of course, it could readily have been ascertained that the disease was not prolapsus ani. It is remarkable that the first symptom was the protrusion of the tumour, and that the child had never suffered from hemorrhoids or any irritation of the rectum at any previous period, nor had he ever had any attack of diarrhœa or dysentery.

Case in which the Metacarpal Bone, and first Phalanx of the Thumb, were removed for Caries. By John Hamilton, Surgeon to the Richmond Hospital.

The extraction of a diseased or injured metacarpal bone, leaving the phalanges, is rarely performed, perhaps too rarely: although in the works on operative surgery by Malgaigne, Velpeau, &c., elaborate directions for its resection are given. When the metacarpal bones of either the middle or ring fingers are in question, the most judicious course is, I believe, not to attempt to save the finger. Even in the little finger it may be fairly doubted whether, after the removal of the metacarpal bone, the finger could be either useful or comely. I have no doubt, however, that we should do our best to save the phalanges of the forefinger or thumb, as even an imperfect use of these fingers, so necessary in the prehension, touch, and appreciation of bodies, is most desirable.

In the case I am about to relate, not only was the metacarpal bone of the thumb removed, but subsequent circumstances rendered

the ablation of the first phalanx necessary; and yet the thumb, so shortened of its fair proportions, is of the utmost value in feeling or holding small bodies, and in grasping large ones.

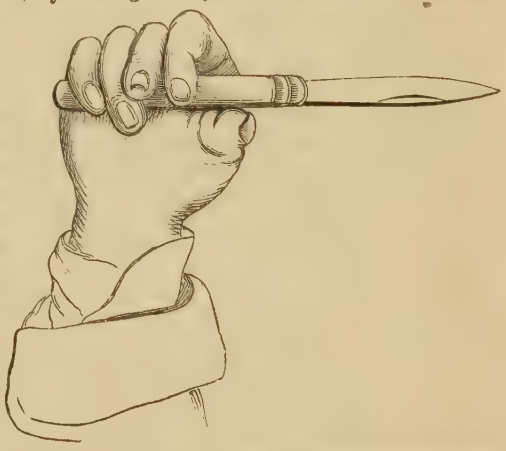
W. Hill, aged 40, a ship carpenter, living at 45 Blundell-street, Liverpool, came from that town, July 8, 1848, to Dublin, and was admitted into the Richmond Hospital, with chronic synovitis of the right knee. It was cured by the ordinary treatment.

Besides this the thumb of the right hand appeared to be seriously diseased; the parts around the metacarpal bone were greatly swollen, of a livid red colour, with four small fistulous openings; examined by a probe, these led down, at some distance from the surface, to diseased bone, which felt loose, particularly at its upper part. This complete disease of the metacarpal bone led me to the conclusion that the only treatment was amputation of the whole thumb down to the carpal articulation. He prayed, however, so hard not to lose the whole thumb, which he asserted to be essential to his trade, that I determined to give him the chance of retaining the phalanges and fleshy ball of the thumb by removing the metacarpal bone alone. In performing this operation, besides the necessary caution against cutting across the tendons or wounding the blood-vessels, I was particularly careful not to hurt the nerves, as I have always observed accidental division of the nerves supplying the fingers, by cuts of knives, bits of crockery, broken glass, &c., to be followed by total uselessness of the finger, which, its supply of innervation cut off, becomes insensible, at times cold and livid, and at times hot and painful, and liable to partial or complete mortification on the slightest injury, from burns particularly, to which the insensibility renders it very obnoxious.

I made an incision the whole length of the metacarpal bone, on its dorsal surface. From the swelling of the soft parts the diseased bone lay deep, but by careful cutting I cleared the upper part, which came away when I seized it with a forceps; it proved to be the upper third. I next removed the middle portion, small and much corroded. The lower remaining part required great care and much nice dissection with a probe-pointed bistoury, guided by my nail, it was so imbedded and consolidated by long-continued inflammation (the origin of the disease dating two years back). The chief and great difficulty, however, was, that from the surface of this portion of diseased bone arose many sharp projections or spurs, so that the bistoury could not be carried evenly along its surface, but had to be carried with the greatest care over these obstructions, or the adjacent tendons, vessels, and nerves, must have been inevitably divided.

March 22, 1849. He went on well after the operation, the only accident being an abscess at the upper and inner part of the ball of the thumb, and he left the hospital with the thumb beginning to assume a natural aspect and to be useful, as he could grasp objects of moderate size, such as a pencil, for instance, between the finger and thumb. There was, however, a small fistulous opening. After

having been for some time in Liverpool, an abscess formed near the fistula, and broke, and soon after a second formed; this brought him over to Dublin again. I opened the abscess, and found at its bottom, diseased bone, the proximal end of the first phalanx, in a state of caries. Through a proper incision I removed the whole of the first phalanx, leaving as the only solid bony support of the thumb the last phalanx. The wound healed slowly, and it was altogether a twelvemonth from the first operation until the last cicatrized. He was, however, well repaid, by having a very useful member. Last February he wrote to me, saying, "My thumb is perfectly stout; I can use it to anything that is required." He came afterwards to Dublin on some business, and it was really curious to see how the soft parts had accommodated themselves to their altered relations, and what useful and varied motions could be performed by the abbreviated thumb. I got Mr. Conolly to take a drawing of it, which exhibits the prehensive power remarkably well; he could also hold small objects between the forefinger and thumb very well.



The case certainly was by no means a favourable one for the operation; it is therefore only the more encouraging to lead us to try and save the phalanges whenever we think their presence could be useful.

Cases occurring in Ophthalmic Practice. By S. Browne, Esq., R. N., Surgeon to the Belfast Ophthalmic Institution.

Case I. *Pterygium-like Growth, ending in Cancer; Extirpation of the Eye; Return of the Disease.*—Patrick Donnelly, aged sixty-five, by trade a porter and bottler in a wine store, applied at the Belfast Eye Dispensary, in the month of August, 1846, relative to a disease of some duration in his right eye. The history he gave of his ailment may be briefly stated as follows. About two years preceding the date of his application, he had observed some redness in the right eye, attended with slight dimness of vision, a constant flow of tears, and some pain, especially when he was obliged, in the performance of his duty, to remain in a stooping posture for any length

of time. At that period he had applied to the late Dr. Sanders, who it seems repeatedly scarified the conjunctiva, and had ordered a solution of nitrate of silver to be dropped into the eye. Leeching had also been directed, and alterative medicines given; "but," to use the words of the patient, "nothing seemed to agree with it," and the complaint went on up to the time when he first came under my observation. There were then present a large number of thick, tortuous vessels, reaching over the upper part of the sclerotica towards the cornea, upon the superior segment of which they formed a fine vascular film: through this the half of the iris and covered portion of the pupil could be dimly seen. The lower portions of the cornea and iris, with nearly one-half of the pupil, were quite clear, and, consequently, objects beneath the level of the eye were distinctly visible to the patient. The whole of the conjunctiva covering the upper and outer part of the sclerotica was quite vascular and thickened, while all the inner and lower portion was pale and healthy in structure. The palpebral conjunctiva was not engaged in the disease, nor were the eye-lids in any respect unnatural in appearance. In fact the diseased structure seemed to be merely one of those irregular conjunctival growths, classified under the denomination of *pterygium;* and had it not been for the amount of pain which it caused, there would not have been anything very remarkable in the affection. I may here also state, that his general health, hitherto good, began to decline about this time.

My first object in the treatment was to allay the suffering which the patient complained of, and this I accomplished by desiring him to use soothing fomentations and an opiate collyrium, and to lay aside all irritating applications. He also took anodyne and tonic medicines, and under the use of these he gradually improved in health. The disease, moreover, did not extend, but for some months seemed to be almost stationary in every respect; and early in January, 1848, I determined to remove the morbid growth. This I accomplished by raising it up with a forceps, and dividing it completely across with a pair of scissors, at about two lines from the margin of the cornea; the upper portion I dissected clean up to the point from which the enlarged vessels seemed to spring; and the lower part I turned off from the superior half of the cornea by light touches of a very sharp knife. No inflammation of any importance followed the operation, and in three weeks afterwards the conjunctiva was renewed and almost normal in appearance; the cornea was nearly clear; and the eye presented no remains of the former appearance save a thickened, vascular, and irregular margin, where the conjunctiva had been cut at its reflection upon the upper eye-lid. For some months after this he ceased to attend, and did not present himself until the following August, when I learned from his statement that the eye had remained pretty well, and without any pain, until within the last few weeks; about that time he first began to feel a return of the uneasy sensation formerly experienced, and observed the vessels to be

again increasing in size. Upon examination I found that the disease had resumed much of its previous appearance, though it was not so great in extent. After a few days I once more removed the pterygium-like growth, by an operation similar to that performed in the first instance, taking great care to excise every portion of the thickened conjunctiva. Again this tissue was quickly renewed and healed up, leaving scarcely a trace of disease beyond the contraction caused by the cicatrices, and some opacity of the upper segment of the cornea. On this occasion the necessity of appearing once in every week at the institution was enforced upon the patient. For about two months succeeding the last operation there was little change observable in the part, and the patient did not complain of any pain in the eye; at the end of that time, however, a few thick tortuous vessels began to radiate from all sides towards the cornea, which soon became almost entirely covered, and presented the appearance termed *pannus*. As the growth enlarged, along with it also increased the uneasiness in the organ, until at length a constant severe, occasionally excruciating, pain, was felt there. The disease then progressed very rapidly, so that in the month of March, 1849, the entire ocular conjunctiva was greatly thickened, and raised into hard, irregular nodules. The true character of the malady, which I had long suspected, was at that period unquestionable. I then felt it my duty to explain fully to the patient the nature of his complaint, and to assure him that his only chance was to have the eye forthwith removed; expressing it as my conviction, that unless he submitted within a very limited period, the time for surgical interference would have passed by. It was not, however, until the month of June, when his suffering had become extreme, with sleepless nights, which no opiates could relieve, and when his health began rapidly to give way, that he would consent to an operation. His description of his sufferings, at that time, was sufficient to excite compassion in the most callous. He said he "felt as if a live coal occupied the eye-ball, while a saw was dividing his head, as it were by rapid jerks, and burning hooks were dragging out the centre of his brain," causing an amount of torture beyond physical endurance.

At that time the eye-ball, or rather the investments of the globe, had become very much enlarged, and it was almost immoveable in the orbit, from which it projected to a considerable extent. The eye-lids were still free from thickening, or apparent disease, and moved as freely as the projecting mass would permit.

Under these circumstances, having maturely considered the matter, and with the concurrence of my medical friends, to whom I had exhibited the case, I determined to give the poor sufferer the only human means of relief from his agony, and the only chance of prolonging his life, for even a short period. He was, therefore, removed into the General Hospital, where, on the 28th of June, 1849, the eye was extirpated in the following manner. The patient was placed upon a high table, with the head and shoulders elevated, and

the face turned well to the right side, so as to bring the diseased part into such a position, that the blood would, after the first incisions, flow *from* the orbit, and prevent its collecting there so as to impede the operation. As soon as the patient was fully under the influence of chloroform, I carried a curved needle, armed with a strong ligature, deeply through the scirrhous mass; divided with a bistoury the external commissure of the eye-lids to its greatest extent; and, having the lids held apart by an assistant, I plunged a doubled-edged scalpel, curved on the flat, into the outer and upper part of the orbit, and rapidly separated all the attachments of the conjunctiva, on every side, by sweeping the knife from without inwards along the roof of the orbit, and then from within outwards along its floor, taking care to keep the convex side of the scalpel close to the walls of the socket. The eye was then drawn forwards, and to the outer side, while the knife was carried to the bottom of the orbit, where the optic nerve and the attachment of the muscles, were divided close to the bone. The hemorrhage was very profuse for a few seconds, but having sponged out the orbit, and then filled it with a strong infusion of matico, the bleeding was soon reduced to a mere oozing: the socket was then most carefully examined, when not a particle of diseased structure could be discovered. A compress of lint, saturated with the matico, was next introduced within the orbit, and retained there for three hours, when it was gently removed; the lids were brought together, the commissural wound being united by a couple of fine points of suture, and the whole covered with a light cold water dressing. There was no return of the bleeding, and very little inflammation of the part or constitutional disturbance followed. In a few days healthy suppuration was established, and the socket gradually filled up with apparently sound granulations. On examining the scirrhous growth which had been removed, it was found to be of the true cancerous structure. The entire ocular conjunctiva, the epithelium of the cornea, and the fibro-cellular tissue between the muscles and the sclerotica, were changed into a thick, hard, irregular mass. The muscles were not much diseased, and the fatty substance *behind* the tunica vaginalis oculi, removed along with the morbid growth, did not exhibit any trace whatever of the carcinomatous deposit. On making an antero-posterior section of the diseased structure and the eye, the sclerotica, the inner side of the cornea, and the other tissues and humours, seemed quite healthy. The principal scirrhous growth was attached to the upper and outer part of the sclerotica, insinuating itself deeply beneath the levator palpebræ superioris, and involving the superior and lateral recti muscles. This portion of the growth had invaded the lachrymal gland, which had become fused, as it were, into the general mass of the disease.

For fully six months after the operation the patient enjoyed complete immunity from any apparent return of the affection; nor did he, during that time, feel the slightest pain in the part or in

the head. Throughout the period mentioned I saw him frequently, and could not observe any tendency to disease. However, in the month of January, 1850, I discovered a very hard tumour, as large as a pea, in the situation of the trochlea of the superior oblique muscle. This increased slowly at first, but, by the end of April it had extended so as to occupy a large portion of the orbit. The eye-lids, it is remarkable, were still free from the disease; nor was it, indeed, until some months after that they became involved in the destructive process.

In the summer, I may observe, the patient had a severe attack of dysentery; during the time it lasted, the morbid growth not only did not increase, but even seemed to have much diminished in size. At that period the chain of superficial cervical lymphatic glands became inflamed and suppurated, discharging healthy pus.

Until the month of August the suffering was not very severe, but since that time, the disease having rapidly increased, the sensation of pain has become gradually more and more excruciating. Since May last the morbid structure has assumed the character of the medullary sarcoma, which now, at the time I write, 30th December, 1850, has invaded all the neighbouring parts, presenting a frightful mass of cancerous growth. This bulges out in front for more than two inches before the level of the sound orbit, pushes up the orbital plate of the frontal bone, so as to raise the arch of the brow far above its fellow; it passes outwards and downwards, involving the parotid gland; inwards, destroying the nasal and ethmoid bones; and backwards and downwards into the right nares. Latterly the destructive ulcerative process has commenced near the root of the nose, and frequent bleedings have taken place, which have much reduced the patient's strength, who now hopes to be soon relieved by death from the agony which he has so long endured.

Remarks.—The foregoing case is very interesting, as it clearly illustrates the rise and progress of one of the most fatal, intractable, and painful maladies that "flesh is heir to." It is an example of carcinoma, arising as pointed out by Mr. Travers in his "*Synopsis of Diseases of the Eye*," and justifies his opinion, as expressed in the following remarks: "I had formerly been led to suppose that the malignant disease termed cancer affected the ball or globe of the eye. Such is the doctrine of most writers on the subject. I have, however, satisfied myself, that, as regards the eye, this disease is peculiar to the lachrymal gland, conjunctiva, and eye-lids," &c. And again: "There is a malignant fungus of the conjunctiva, for, like the mucous membrane of other parts, this is sometimes the seat of carcinoma; and, excepting the lachrymal gland, I believe no other texture related to the organ of vision is ever primarily so affected."

The history of the case, and dissection of the morbid mass after removal, demonstrate the fact that the conjunctiva was the part primarily affected, without the other textures of the eye-ball being

at all engaged. Doubtless, in process of time, these would have either been invaded by the malignant deposit, and have thus been destroyed, or the pressure of the surrounding scirrhous mass would have caused absorption and wasting of the various tissues and humours of the globe.

One or two questions of practical value naturally arise out of the history of this case. Should the pterygium-like growth have been interfered with in the first instance? Would extirpation of the eye at a much earlier period have prevented the return of the disease? And was the operation justifiable at the advanced stage of the complaint when it was performed? In reply to the first query, I can only say that I was guided by my experience of more than one case, bearing a very close analogy to that under consideration, in which the removal of a large mass of thickened conjunctiva, and even scraping the vascular epithelium from the surface of the cornea, were followed by most satisfactory results, the conjunctiva having been renewed, and the cornea completely restored to a transparent condition; therefore I saw no reason to fear any evil consequence in this instance, though it was so extensive, and attended with an unusual amount of pain. With respect to the second question it is impossible to determine, but there is some reason to suppose that had the operation been submitted to, as soon as the true character of the disease was unquestionable, the patient would have had a very fair chance of being completely freed from the malignant affection. Then, as regards the last query, I feel satisfied that the man must have sunk under his accumulating sufferings very soon, had the operation not been resorted to. It is needless to argue the propriety of endeavouring to prolong life for even a short period; but in this case there was still a reasonable hope that the disease might have been completely got rid of, especially as the eyelids, and all the parts outside the orbit, were, so far as the most careful examination could determine, entirely free from any malignant taint.

The operation of extirpation of the eye is justly regarded as a very painful one, and one, besides, which gives a very severe shock to the nervous system; but chloroform, duly administered, certainly does away with the first objection entirely, and doubtless thus also very much modifies the danger from the latter. In this case the patient was not cognizant of the slightest pain, and, as has been shown, the system did not appear to have sustained any serious shock. This operation is one of the few in ophthalmic surgery in which the administration of chloroform is admissible; but in this and in the removal of orbital tumours and diseases of the eye-lids, it should certainly be always employed.

I have only one further remark to make, and that is regarding the position of the patient, and the use of a knife alone. By having the patient placed upon a very high table, with the diseased part inclined very much towards the affected side, the structure to be

removed is brought more directly before the view of the operator, while the inclination of the orbit permits the blood to flow freely away, and thus leave the parts clear.

I found the double-edged scalpel, curved on the flat, a knife suitable, in every respect, for the division of all the attachments of the eye, both superficial and deep; for by it I was enabled to remove the entire contents of the orbit with the greatest facility, and in a very few seconds. I therefore do not see the necessity for using the curved scissors as recommended by some authors.

Case II. *Infiltration into the Areolar Tissue within the Orbit, causing great Projection of the Eye, with almost complete Amaurosis.*—Jeremiah Cumming, aged 40, by occupation a farm labourer, of a very cachectic appearanee, came under my observation at the Ophthalmic Institution, in the early part of October, 1849. At the date of his application he stated that for more than three months he had been slowly losing the sight of the left eye; that he felt a severe, deep-seated pain within the orbit, acute pain in the brow of the same side, and constant headach, and that all these symptoms had gradually increased from the period when he first felt anything of his complaint. He ascribed the origin of his disease to over-exertion in the early harvest season, and exposure to cold after being heated. He had not observed any redness of his eye since it became affected. On examining the affected organ I found the globe apparently enlarged and thrust forwards, so as to project somewhat from between the eye-lids; the pupil was dilated and almost insensible to the impression of light; the eye-lids were pale and swollen; the conjunctiva quite natural in appearance. On raising the upper eye-lid, and further examining the eye-ball, I at once saw that its seeming enlargement was only apparent, and was caused by the globe being pushed forwards, as I have already remarked. The question now to determine was, what caused this projection? did it arise from a simple encysted tumour, or from a malignant growth, which the man's exceedingly unhealthy leaden aspect might have led me to suppose, or merely from effusion into the areolar tissue of the orbit, the consequence of slow inflammatory action? This last view of the case I adopted, first, from the history of the complaint, and secondly, from the appearance and feel of the eye-lids, and also from a soft diffusible swelling which occupied the left temporal space, and was connected with the swelling observable in the eye-lids. With this impression I had the man admitted into hospital on the 16th of October. Twelve leeches were ordered to be at once applied around the eye and to the temporal space, and a pill containing two grains of calomel, one-twelfth of a grain of tartarized antimony, and half a grain of opium, was directed to be taken every six hours. On the 18th and 20th, eight leeches were again applied, and, as the system was not yet affected, the mercury was ordered to be continued. On the 22nd the following report appears in my case book:—"The eye

is less projecting, the swelling in the eye-lids and temporal space much reduced, the pain in the orbit is gone, and vision is much improved; the pupil is less dilated, and acts under the influence of light; the mouth is tender. To have only one pill at night." From this date until the 27th he continued to take the single pill daily, and had four leeches once applied. The improvement in vision was progressive, and the prominence of the eye and the swelling in the temporal space gradually diminished. On the 27th the pill was omitted; a blister, to be dressed with mercurial ointment, was applied to the left temple, and a tonic mixture, containing the citrate of iron and quina, was ordered to be taken. On the 30th of October he was discharged, at his own request, and was supplied with an ointment composed of the iodide of potassium, twelve grains, camphor, sixteen grains, and lard one ounce, rubbed up with four drachms of the mercurial ointment. He was directed to apply a portion of this by friction to the eye-brow and temple daily, until his eye was restored to its natural condition.

As he lived at a considerable distance from Belfast, I did not again see him for several months, at the end of which time, however, I found him in excellent health, and with his sight quite as good as it ever had been; and he stated that in a fortnight after he returned home he left off all interference with the eye, as he felt there was not then "anything the matter with it."

Remarks.—The case just related seems to have been one of rheumatic inflammation of the tunica vaginalis oculi[a], and of the other fibrous tissues within the orbit, extending to the temporal fossa, followed by infiltration into the areolar tissue of these parts, somewhat similar to those first related, I believe, by Mr. O'Ferrall. The amaurotic symptoms arose, doubtless, from the pressure to which the eye-ball, and the strain to which the optic nerve were subjected; consequently, as soon as the exciting cause ceased, the effect gradually ceased also. The aspect of the patient was such as to cause me at first to apprehend some malignant affection; and the amount of pain suffered, without any external sign of inflammation, tended to increase that fear; therefore it was only the history of the case, and the touch of the swollen eye-lids, along with the pitting on pressure of the diffused tumour in the temporal space, which indicated the true nature of the disease. I do not attach great importance to the application of leeches in the treatment of this case; on the contrary, I feel quite assured that affecting the system with mercury, and using frictions with an ointment containing the iodide of potassium, would as certainly, and perhaps as quickly, have removed the affection, as the plan I adopted.

[a] Since writing this case another of a precisely similar kind has come under my observation; the same plan of treatment was adopted as in the former, and a cure effected in fifteen days.

Case III. *Severe purulent (gonorrhœal?) Ophthalmia of both Eyes; partial Sloughing of Corneæ; Good Vision preserved.*—C. B., aged 39, a married female, of pale, delicate appearance, and with a seemingly broken-down constitution, applied at the Ophthalmic Institution on the 10th of October, 1850. The eyes being completly closed up, she had to be led into the consultation room, where the nature of her disease was at once apparent. The eye-lids were very much swollen, and of a dusky red colour, with the chemosed conjunctiva projecting between their margins. On separating them an almost incredible amount of purulent secretion flowed down in a stream over the cheeks; this secretion was of a cream-like consistence, and of a pale yellow colour. On clearing the surface of the conjunctiva, and gently parting the upper and lower lips of the chemosed portion, the corneæ could be partially seen; that of the right eye was nearly lustreless and of a greyish hue, with a small slough occupying its outer and inferior segment. The left presented less change in appearance, and possessed more brilliancy, but with one point near its outer margin evidently softened and tending to disorganization. The pain was very severe, and exposure to light caused great anguish. The pulse was 110, and very weak; the skin cold and clammy, and the tongue pale and tremulous.

After having given her a cordial laxative draught she was removed to the hospital; jars containing hot water were directed to be applied to her feet, and she was ordered to drink warm tea. At the evening visit I found her skin of a natural heat, and the pulse somewhat fuller in volume; the draught had operated freely, and she expressed herself as then feeling generally more comfortable than in the morning. Having cleansed the eyes by copious affusions of tepid water, I pencilled the entire of the chemosis with solid nitrate of silver, and ordered that every third hour the discharge should be gently removed by means of warm water pressed from lint, after which a lotion composed of the sulphates of alumina, copper, and zinc, of each eight grains, dissolved in eight ounces of water, with four drachms of the sedative liquor of opium, should be freely instilled between the lids. I also prescribed a powder of two grains of calomel, with five grains of Dover's powder, to be taken twice daily. Next day, the 11th, the chemosis appeared less, though the quantity of purulent secretion was even greater than before; in fact it poured from the eyes. So far as the cornea could be seen it was evident that the disorganizing process had not extended. The pain in the eyes was greatly lessened, and, except from the smarting sensation experienced after each application of the lotion, the patient did not complain of much suffering. The nitrate of silver was applied as before, and the former treatment was directed to be continued. On the 12th full diet was ordered, and a powder of five grains of powdered cinchona bark, with five grains of the bicarbonate of soda, was ordered to be taken thrice daily; she was also to have two ounces of port wine in the day. On the 14th the case book reports: "The

eyes much better; the sloughs of the corneæ not at all extending; the purulent discharge very much diminished, and vision very greatly improved." The local treatment, as at first adopted, had been continued up to this period. After this time the nitrate of silver was applied every second day, and the lotion occasionally, while extract of belladona was kept smeared over the eye-brows, as, at the points where the sloughs of the corneæ had separated, there was some tendency to prolapsus of the irides. Save the omission of the calomel powder on the 14th, an increase in the quantity of wine to four ounces daily, and the application of blisters to the temples once, there was not any change in the treatment until the 28th, when the following report appears: "Eyes very much better; no purulent secretion; there is some lachrymation on exposure to light. The sight in the left eye is quite good; in the right it is still obscured, and there is a considerable-sized, fungus-like growth from the prolapsed iris." This excrescence was touched daily with a point of nitrate of silver, and belladonna was kept constantly applied around the eyes, On the 4th of November there was little remaining trace of disease, save some slight irregularity in the shape of the right pupil, and the changes in the structure of the corneæ where the ulcers had healed; but, as these were not in the axis of vision, the sight was nearly as good as before the attack. On the 6th of November the patient was discharged, and desired to attend for some time as an extern patient. After a fortnight she left off attending, as the eyes were quite well, and her health very much restored.

Remarks.—This case of purulent ophthalmia, one of the most severe I have ever seen, pretty clearly illustrates the curative influence of the nitrate of silver in a disease so fraught with danger to the integrity of the organs of vision: in fact, I am convinced that by no other known method of treatment could sight have been preserved in this instance. I have seen depletion (quite out of the question in this case), scarification, as practised by Tyrrell, and all the various methods which have been adopted by those who are afraid of what they call "irritating applications," fail; but I can safely assert that in no instance of purulent ophthalmia, which has come under my observation, have I ever found the free application of nitrate of silver fail in arresting the disease and preserving sight, provided the first application had been made before change in the structure of the cornea had taken place; and, moreover, that in several instances, as in the one under consideration, I have been enabled to prevent further mischief ensuing, although the destructive process had set in. Many practitioners are either afraid to use what is most wrongfully named a "caustic," or are so wedded to the notion that depletion is absolutely necessary in all inflammatory attacks, especially of the eye, and that soothing applications are alone suitable to such a delicate organ, that they cannot bring themselves to adopt the *free* use of the nitrate of silver; and hence many eyes are seriously

injured, or lost, in purulent or gonorrhœal ophthalmia, by a most reprehensible dallying with a very dangerous disease. I have reason to think that the attack, in the subject before us, arose from direct inoculation with gonorrhœal matter; and certainly the *aspect* of the case bore testimony to that as the exciting cause, judging, as I do, from the experience of a large number of cases of purulent and gonorrhœal ophthalmia which have come under my observation during the last twenty years. I did not, however, speak of it absolutely as a case of gonorrhœal origin, as I could not arrive at certain conclusions; but it matters little by what distinctive appellation it may be named, as the treatment pursued was, in my opinion, the only one that could have been successfully adopted. It may be asked if I deemed the exhibition of calomel absolutely called for? In this case I think it was, as all the secretions seemed in a vitiated condition, but the moment these were improved I substituted tonics. I very seldom give mercury in purulent ophthalmia, save as a purgative along with some other medicine, as I do not deem it all essential to the safe treatment of that complaint. With regard to depletion, either local or general, in this disease, its employment must entirely depend upon the state of the system, whether vigorous or otherwise, of the person under treatment, but, *per se*, I should be very sorry indeed, in any case of severe purulent or gonorrhœal ophthalmia, to place dependance upon the abstraction of blood.

Case of Idiopathic Glossitis involving half the Organ. By Arthur Leared, M. B., Physician to the Oulart Dispensary, County Wexford.

August 14th, 1850, Patrick Rice, sixty-nine years of age, a farmer, states that he first complained about a week since of a sore mouth and tongue, which have gradually increased; he attributed it to a wetting received in attending a funeral the day previously. Four days after, I saw the case for the first time, and on examination I found the base of the tongue on the left side very hot and somewhat tumid; but my attention was not at first arrested by the peculiar condition of the organ. For the last few days he has been almost incapable of swallowing, and to-day it may be said he is quite so. He is unable to separate his teeth more than about half an inch, and clear glairy saliva constantly flows from his mouth. His articulation is so obstructed that it is with the greatest dificulty he can be understood.

On a careful examination with my finger, I ascertained that the tumefaction was wholly confined to the left side, extending from the summit along the dorsum of the tongue into the pharynx, and involving its entire thickness, so that its motions are almost completely impeded from the encroachment upon the space here allotted to them. The root of the organ and floor of the mouth on this side are also much engaged, but the gums not at all so. The tip of the

tongue can scarcely be protruded beyond the teeth; its surface, and as far as can be seen of the remainder, especially towards the affected side, presents a peculiar pale and sodden appearance. The contrast between the two portions is well defined by the mesian line: when felt by the finger that on the right is found to be soft, flaccid, of natural dimensions, and comparatively cool, contrasting in a marked degree with the unyielding, tumid, and burning sensation imparted by the other. Externally there is considerable tenderness beneath the angle of the left jaw; his pulse is 88, and there is great debility; the bowels are not constipated. The treatment I endeavoured to adopt was the direct application of leeches to the tongue, as recommended by Dr. Graves[a], but this, after having been attempted by means of threads passed through their extremities, I was compelled to abandon, owing to the great difficulty of application from the closed state of the jaws, two only having imperfectly drawn blood. Five others were applied to the affected part of the throat, and directions given to have it subsequently assiduously fomented, as also the tongue itself, by means of hot water taken into the mouth. An electuary containing five grains of calomel and ten of jalap was carefully placed on the organ, as far back as possible.

15th. The electuary was swallowed last night with the greatest difficulty; it has operated freely this morning; his pulse is now 84; tongue less swollen; articulation somewhat improved, and the teeth can be farther separated. He has been able to take some chicken broth. The electuary was ordered to be repeated.

17th. Improvement in every respect so marked that he may be considered almost convalescent. Electuary to be again repeated.

November 1st, 1850. The man is at present in perfect health. I have lately examined his tongue, and found all traces of the complaint quite gone, neither induration nor enlargement remaining.

Abscess of the Spleen, communicating, through the Diaphragm, with a gangrenous Cavity of the Left Lung; Portal Phlebitis; Diffuse Inflammation between the Stomach and Liver. By Robert Law, M. D., Professor of the Institutes of Medicine, and Clinical Professor in the School of Medicine in Ireland, &c., &c.[b]

Mary Matthews, servant, aged 26, unmarried, of a pallid, strumous aspect, was admitted into Sir Patrick Dun's Hospital, November 27th, 1850, in a state of extreme exhaustion. She complained of most distressing oppression of her breathing, and of pain in the left side of her chest. There was a fetor[c] from her breath which alone would

[a] Clinical Medicine, by Neligan, vol. ii. p. 196.

[b] Read before the Pathological Society of Dublin.

[c] There is something so very peculiar in the fetor of gangrene of the lung, that, when once perceived, it is ever afterwards easily recognised. I was called to see a gentleman about twenty-five years of age, who had spat blood,

have satisfied me of the existence of gangrene of the lung. She had a most distressing cough, with expectoration of a dirty brown frothy mucus, emitting the same fetor as the breath, but in a less degree. The left side of the chest was dull to percussion in its postero-inferior half, and corresponding to this dull sound auscultation discovered a distinct amphoric resonance through a large muco-crepitant râle, amounting to gargouillement. The rest of this side, both posteriorly and anteriorly, was clear when percussed, especially so below the mamma; and the respiration was heard distinctly, except under the mamma. Both percussion and auscultation confirmed the integrity of the right lung. The heart's action was peculiarly rapid, so that it was quite impossible to analyse its sounds; in fact but one sound could be heard. Pulse 130 in the minute, and very small. Her cough had a peculiar tracheal character, and gave her much annoyance; it quite prevented her from sleeping. She had very heavy perspirations at night. She had distressing thirst, but no desire for food. The tongue was quite clean. The history that I obtained of her case was, that having drank cold water when the menstrual discharge was present, she was suddenly seized with violent pain of the abdomen. The medical man who saw her soon after the pain came on found her writhing with agony, with the abdomen enormously distended with flatus. He tried to introduce a large gum-elastic tube into the rectum and up the intestine, but without success, till some blood was taken from the arm; then the parts seemed to relax, and allowed the tube to pass. Injections thrown up brought away a large accumulation of fæces, and quite removed the tympanitic tension. The pain, however, did not subside, and a diarrhœa came on, but without any blood in the discharges. She was now at the beginning of the third week of her illness, when she felt a very sharp pain in the left side of her chest; shortly after which her breathing became very much oppressed. She now began to cough. The op-

which alarmed him much. It was in Norfolk, where I had happened to be during the summer; the hemorrhage was very inconsiderable, but the sight of the blood frightened him. When I saw him his breath at once told me he had gangrene of the lung. The history of his case was this. He had been heated in cricketing, and stretched himself on the grass; in the evening he was seized with a rigor, and soon afterwards with pain in the side; his medical attendant saw him next day, and bled him, with relief, and gave him what his case seemed to require: it seemed to be one of pleuro-pneumonia, and was treated accordingly. He at first improved, but after some time he not only made no way, but even appeared to grow worse. It was when he had been ill a fortnight that he had hemoptysis, which made him send for me, as I happened to be nearer to him than his attending physician. After I had quieted his alarm about the hemoptysis, I waited till his physician arrived. I then noticed to him what he had not perceived, the fetor of the breath, and of the sputa. He at length admitted its existence, and consented to an alteration in the treatment, upon which an amendment in the condition ensued, and a subsequent complete recovery. The education of the senses, as instruments of diagnosis, ought to be continually impressed upon the physician.

pression of her breathing continued to increase until she was admitted into the hospital. A week after this, a new phenomenon presented itself; the fetor of the breath and of the sputa convinced me of the existence of gangrene of the lung, but the amphoric resonance in the posterior left part of the chest, and the clear sound under the mamma, created a suspicion in my mind that a detached slough of the pleura had given rise to pneumothorax. In order to ascertain this, I made the patient alter her position, and allow me to examine her on her hands and knees. The alteration of position made no change in the phenomena, which continued *in statu quo*; nor did succussion indicate the presence of any fluid in the chest. My diagnosis was, that there was a gangrenous cavity in the lower part of the left lung. I attributed the resonance anteriorly to the stomach. There was but little variety in her symptoms from the time she came into hospital until her death, which occurred at the end of a week. She chiefly complained of the violence of the palpitations, and of rigors, which she had every night, and which were at times very violent; these rigors were sometimes followed by perspirations, and sometimes not. The pulse at the wrist was often so rapid that I found it impossible to count it. On one occasion, when I could not count it, I was able, by means of the stethoscope applied to the heart, to reckon 180 contractions of the ventricle in the minute. I remarked to the pupils, who accompanied me in my visit, that I had never before witnessed the same rapidity of pulse and quick (*vive*) action of the heart, quite obscuring its rhythm, except in cases of excessive hemorrhage, and of phlebitis dependent on the introduction of some poison into the blood. I had in view cases of phlebitis which I had known to have followed the operation of venesection performed with a dirty lancet. As there was no hemorrhage in the present case, I charged the peculiarity of the symptoms on the circulation being poisoned with putrid matter from the disorganized lung. I saw too plainly I had not much to expect from treatment. Still it was remarkable how wine seemed literally to bring her to life again; and of it she drank most freely. I also gave her pills composed of morphia and chloride of lime, the former ingredient to relieve the distressing irritation of the cough, and the latter to correct the fetor. I believe these pills were useful. She seemed to die from exhaustion. The examination of the body exhibited most interesting pathological appearances. The lower lobe of the left lung was completely disorganized; it was reduced to a dirty, blackish brown mass,—to that state which the French pathologists so aptly designate *putrilage*. In the centre of this mass was a jagged, uneven cavity, not lined by a distinct membrane, but bounded by sloughing pulmonary substance. This cavity extended upwards through the height of the lobe of the left lung, and downwards through an opening in the diaphragm, through which at least two fingers could pass, into an abscess of the spleen. This abscess, which contained a quantity of pus and a portion of the spleen, was lined by a regular, defined membrane. The portion of the spleen in

the abscess exhibited, partly on its surface, still covered with its capsule, the appearance of a withered shrivelled apple, while a considerable part of it was broken down and jagged from ulceration. To return to the lung, there were small depôts of purulent matter in the diseased portion of it, and many of its vessels were plugged up with lymph. The superior surface of the stomach was attached to the under surface of the anterior margin of the left lobe of the liver by bands of pasty lymph, into which thin purulent matter was infiltrated. It was in fact a specimen of diffuse inflammation. The liver was larger and paler than natural, and when a section was made from its anterior to its posterior margin, pus issued from the divided vessels. All the branches of the porta seemed to contain purulent matter. The splenic vein contained a dirty grumous coagulum, about an inch long, which could be easily detached from the sides of the vessel. Neither the lining membrane of this vein, nor of the porta, was either red or vascular, or softened in its structure. The heart was small. Its muscular structure, especially the left ventricle was in a state of the most rigid contraction, and its cavity almost entirely obliterated. I found no coagula in the right cavities of the organ, nor in the pulmonary artery. The only other morbid appearances that were discovered were a slight ulceration of the os uteri, and the cicatrices of old buboes in the groins (*Cerne cicatrices veneris vestigia priscæ*).

I believe I am safe in asserting that the records of pathology do not present an exact parallel with the case just detailed, nor one exhibiting such a variety of interesting features. Its history leads me to believe that the mischief originally began in the abdomen. It is not easy to determine whether the substance of the spleen was first affected, and the inflammation extending from it to the peritoneum produced an abscess bounded by adhesions; or whether it was originally an inflammation of the peritoneum lining the diaphragm, in the neighhourhood of the spleen, ending in the formation of an abscess that involved a portion of the spleen. Although there is no organ in the animal body with whose pathology we are less acquainted than the spleen, yet it would perfectly consist with what we do know of the ordinary circumstances under which it becomes diseased, to believe that in the present case it was the first link in the morbid chain,—the *point de depart* of all the subsequent mischief. Of the physiological uses of the spleen we can scarcely pretend to have got beyond mere conjecture. Like every other organ whose functions have not been accurately determined, it has had many and various uses assigned to it. In fact, whenever a physiologist has been at a loss for an instrument for a function, he has applied to the spleen in his difficulty, and pressed it into his service. This much we know of this organ, it readily becomes the seat of congestion when the circulation in other organs is impeded. In cirrhosis of the liver, the congestion to which the spleen is subject, from the obstructed portal circulation, often ends in its permanent en-

largement; and not unfrequently I have been guided to the diagnosis of cirrhosis of the liver by the enlarged spleen, in the absence of everything else that could have led me to suspect the existence of this disease. We also know how often the spleen is enlarged in intermittent fevers, an effect which is ascribed to the repeated accumulation of blood in it during the cold stage, when this fluid leaves the cutaneous capillaries. We also are familiar with the pain in the left hypochondrium, of which the female, whose menstruation has been irregular, so often complains, and which she describes as a sense of fulness, and often compares to the feeling that would arise from a sponge dilating and pressing out the ribs. At such a time percussion in the splenic region yields an unusual extent of dulness, indicating the congestion of the organ. These facts, connected with the pathology of the spleen, will countenance the supposition that any cause suddenly checking the menstrual discharge, when present, would be very likely to determine to this organ, and perhaps produce inflammation, terminating in suppuration, if the condition of the constitution favoured such a termination. The subject of this case exhibited every indication of a scrofulous habit, further damaged by syphilis. The substance of the spleen was destroyed to a considerable extent, while what was left of it was very soft and diffluent. The other view that suggested itself was, that it was originally a circumscribed peritonitis, forming distinct loculi, which became so many abscesses, one of which happened to come in the way of the spleen, and contracted adhesions with it, and so embraced a portion of it as to enclose it within its cavity; that this cavity afterwards took on an ulcerative action which destroyed a portion of the enclosed spleen, while it also made its way up through the diaphragm, and so invaded the lung, and produced in it the disorganization that I have noticed. If it were not for the coagulum that was found in the splenic vein, so little appearance of inflammation did either the internal membrane of this vein, or of the porta and of its branches, exhibit, that I should have felt little hesitation in asserting that these vessels had but little, if any, share in the production of the pus, but that it was supplied by the splenic abscess and conveyed by them, as by so many conduit pipes, into the liver. I suppose I am to look upon this coagulum as what Cruveilhier calls the *sequestration* of veins, or, as a *nisus naturæ* to prevent the contaminated fluid circulating through the system. We find it more easy to explain how the purulent matter got into the liver than into the lung. It had but a short and direct passsage from the splenic abscess to the former organ; whereas to reach the latter it must needs take a longer route, and pass through the heart, where we might have expected to have found some traces that it had left behind it *in transitu*, in the form of the polypi, or coagula containing pus, which are so often met with, especially in the right cavities, in cases like the present. It was in vain that we looked for these in the heart and in the larger branches of the pulmonary artery. It was only in the minute branches of the pulmonary vessels that we found coagula, and the purulent depôts near them. Perhaps, then, it may be nearer the

truth to suppose that the matter had been generated in the pulmonary parenchyma,—that these depôts were not purulent in the first instance, but knots or coagula of blood which eventually suppurated. This is the most commonly admitted explanation of these purulent depôts, and one that derives a plausibility from the fact, that the pus-corpuscles are too large to permeate the walls of the pulmonary capillary vessels.

One of the most striking features of this very peculiar case was the free communication between the splenic abscess and the gangrenous lung. through the diaphragm. The late period at which the pain of the side, so soon followed by dyspnœa, came on, marked the time when the abscess penetrated the diaphragm. No doubt, before it had made its way into the thorax, some adhesion, which dissection discovered, had already formed between the base of the lung and the diaphragm, otherwise the matter would have escaped into the cavity of the pleura.

I think we can perceive in the difference of the splenic abscess and the sloughy condition of the lung, differences dependent not so much on the nature of the organs affected (although we do allow something for this difference), as upon the different states of the constitution at the different times when the two organs become affected. When the splenic abscess formed, the system was not yet contaminated with the pus which afterwards circulated through it; it was then more capable of healthy inflammation which was bounded by adhesions. When the lung became diseased, it was then infected, and had become incapable of any but the most unhealthy action. I also suspect that it was in the progress of the disease, and when the system had become damaged, that the diffuse inflammation between the stomach and liver occurred. The symptoms which were present from the time she came under my care plainly indicated the constitutional contamination; I allude to the rigors with which she was seized from time to time, and which have been observed so frequently in such cases as to cause them to be regarded as malignant intermittents. But what convinced me even more of the constitutional taint was the peculiarity of the pulse and of the heart's action, whose rapidity exceeded anything I had before witnessed, except in cases of fatal hemorrhage. I have already noticed the rigid muscular contraction of the left ventricle of the heart, and the almost complete obliteration of its cavity, which is the exact state in which these parts are found after fatal hemorrhage. It is not remarkable that there should be these points of agreement between hemorrhage and constitutional contamination. They both present their prominent symptoms in the disturbance they produce in the nervous system, caused in the one case by a failure of a due supply of blood, and in the other by the vitiated quality of the blood supplied to the parts.

I shall conclude my notice of this interesting case by a recapitulation of its prominent features:

1st. The affection of the spleen, whether we regard it as being primarily or secondarily engaged. In either case it adds to our know-

ledge of the pathology of an organ of which we know but little, and, therefore, should endeavour by all means to acquire every possible information about.

2nd. The gangrene of the lung, occurring under circumstances so novel as, I believe, to be without precedent in the history of this lesion.

3rd. The portal phlebitis, with its characteristic constitutional phenomena, exhibited chiefly in the rigors and the peculiar action of the heart.

4th. The purulent depôts in the lung, whether conveyed from a distance or generated in the pulmonary parenchyma.

5th. The diffuse inflammation of the peritoneum between the stomach and liver.

SELECTIONS FROM BRITISH AND FOREIGN PERIODICALS.

M. Blanchard's *Formula for Pills of Iodide of Iron.*

The following proportions are for 100 pills: Iodine, one drachm; iron filings, half a drachm; distilled water, two drachms; honey, four scruples; any absorbent powder, two drachms and a half. The water, the iodine, and the filings are to be introduced into a small glass flask; as soon as chemical action commences, the mixture is to be shaken briskly, and the resulting green fluid filtered into a little iron capsule, the weight of which has been previously ascertained. The flask and the filter are to be washed with two additional drachms of distilled water, mixed with a very small portion of the honey. Mix the liquors, add the remainder of the honey, and evaporate at first rapidly, and subsequently at a lower temperature, until the weight of the mixture be exactly equal to that of the iodide and the honey; that is, to about eight scruples. Add a sufficient quantity of powdered marshmallow root (or, what is better, of a mixture of equal parts of it and of powdered liquorice), about two drachms. Divide the mass into four equal parts, which are to be rubbed in powdered iron[a]. Roll the little masses into cylinders, on an iron pill machine, and divide each into twenty-five pills, which are to be rolled in a fresh quantity of powdered iron, in order to cover any portions of iodide which may have been deprived of their coating by the machine. Expose the pills to a moderately warm temperature, so that they may not attract moisture from the atmosphere, and proceed without delay to the second part of the process, which consists in covering them with a varnish, as follows:

Dissolve one part of balsam of Tolu in three of pure ether; pour some of this tincture into a little porcelain capsule containing the 100 pills, and rotate the capsule rapidly, so as to moisten the entire

[a] For preparing this, a formula is given in the last edition of the Dublin Pharmacopœia.

surface of the pills and promote the evaporation of the ether. Lastly, as soon as the pills begin to adhere, throw them on trays coated with mercury, taking care to separate such as may have united. Leave them for twenty-four hours in the open air, and finally dry them in a stove, at a temperature of from 68° to 77° F.

It will be found useful to give them a second coat of varnish. Each pill is composed, with other matters, of rather more than three-fourths of a grain of iodide of iron, and about one-seventh of a grain of pulverized iron adhering to the surface; the entire being covered with a layer of balsam of Tolu, weighing scarcely 0·046 grain, if single, or about twice as much, if double.—*Journal de Pharmacie et de Chimie*, October 1850, p. 252.

[This excellent form for the preparation of pills of the iodide of iron has been so highly approved by the French Academy of Medicine as, on the report of a committee of investigation, to have obtained the honour of being inserted in the *Bulletin*, and to be deemed worthy of special recommendation. It is remarkable for the simplicity and preciseness with which the details of the manipulation are described, and for the perfection of the process, as regards the complete preservation of the iodide of iron from undergoing decomposition.]

On the Action of the Golden Sulphuret of Antimony. By Dr. Boecker.

The investigations contained in this essay of Dr. Boecker's have been conducted with the greatest care; the author having experimented on himself with the medicine, and having carefully examined the principal excretions before, during, and after its use. The examination of the urine, especially, furnished some interesting results. During the use of the golden sulphuret, the bowels acted regularly, once a day; but when the author omitted to take the medicine, he remained several days without a motion. Whenever the alvine evacuations were increased, the quantity of urine was diminished, particularly in its solid contents, as appears from numerous analyses which are recorded. An interesting circumstance is, that the quantity of urine and of solid excreted matters increased with the dose of the medicine, and *vice versa*. It is also worthy of observation, that the fixed salts in general, as well as the salts insoluble in water, were increased by its exhibition. On the whole, it would appear from the experiments that, during its use, a more rapid renovation takes place in all the organs and all the tissues. Another circumstance to be observed is the increase in the quantity of sulphuric acid in the urine, which was nearly double the ordinary amount, doubtless in consequence of the sulphur of the preparation being converted into the acid, which subsequently enters into the formation of the urinary sulphates. The author also details the results obtained from the examination of the pulmonary exhalation. During the use of the golden sulphuret the amount of carbonic acid was increased, while it gradually diminished on discontinuing the medicine. The quantity of watery vapour, on the contrary, underwent no change. As to its action on the blood, the author found

that it diminishes the amount of the solid constituents of that fluid. Blood drawn from a vein was at first black, but gradually became red when exposed to the air, and this change took place more rapidly than when the sulphuret was not exhibited. The microscopic examination of the blood showed that the nucleated globules visible in normal blood disappear during the use of the golden sulphuret.

To recapitulate: The golden sulphuret of antimony increases the secretion of urine and the exhalation of carbonic acid; it stimulates the intestinal and cutaneous excretions, as well as the secretions of the mucous membrane; and it thus hastens the metamorphosis of the system, an effect which is even to be detected in the blood itself.—*Archiv. für Physiologische Heilkunde.*

On the differential Diagnosis of the several Varieties of general Paralytic Affections, by means of Galvanism locally applied. By A. Brierre de Boismont.

The general paralysis of the insane, so well described by MM. Bayle and Calmeil, appeared to have definitely taken its place in the nosological classification of diseases, when the labours of MM. Baillarger and Lunier, by establishing the position that general paralysis is an affection independent of disorders of the mind, raised the suspicion that it might exist alone, and that in cases of insanity it most frequently precedes the manifestation of mental derangement. While admitting that the general paralysis of the insane is properly divisible into two classes, one of which, more extensive and really characteristic, comprises paralytics with the delirium of ambition, inducing excessive self-esteem, the other, much more limited, includes paralytics with simple dementia; I have, with MM. Calmeil, Foville, Parchappe, Bayle, &c., maintained that the general paralysis of the insane did nevertheless, in its symptoms, its course, its causes, and its nature, as well as by the age and sex of the individuals it attacked, constitute a special disease. Being anxious to clear up this question, in concert with my friend Dr. Duchenne, of Boulogne, I undertook a series of researches on the subject, and I was soon convinced that it was involved in extreme confusion. One of the first results to which our experiments with galvanism applied locally conducted us was, that there are two kinds of general paralysis, differing completely in their nature and their seat.

The distinctive character of the first form of general progressive paralysis without mental derangement is, that it presents a weakening, diminution, or abolition of irritability, more decided in proportion to the duration of the disease. This alteration may begin in a muscle or limb; generally speaking, it is in the inferior extremities it first appears, and it afterwards invades successively all parts, and reaches even the tongue. In several cases the autopsy, though performed with the greatest care, revealed no morbid change either in the brain or spinal marrow, notwithstanding the long existence of the affection.

As an example of such cases I shall briefly mention the following. A lady finds herself losing power first in the left superior extremity, then in the inferior, and subsequently those of the opposite side become affected in the same order; the fingers become contracted, and she can with difficulty retain any object in her hands; her step is uncertain, and she can only walk with the assistance of another. The paralysis reaches the tongue, and the patient cannot pronounce her words without slowness and hesitation; her sensibility remains perfect, her intellect unimpaired; the disease has lasted more than a year. The digestive functions are perfect; she can retain the urine and fæces. The electrical apparatus causes no contraction in the lower limbs. The tibialis anticus, the peronæi, the flexors, remain motionless under the influence of the current. This phenomenon is observed in a somewhat less remarkable degree in the muscles of the upper extremities; the muscles of the trunk contract but feebly. To this case we might add that of a patient under the care of M. Andral, who died with all the symptoms of general progressive paralysis without mental derangement, which had lasted more than a year; in this patient irritability was completely annihilated, although he could still perform some movements. Consciousness continued unimpaired to the last. A careful post mortem examination, in the presence of M. Andral, revealed no change; and a microscopic inspection by M. Lebert showed only a fatty degeneration of some of the muscles of the thigh. The fibres of the muscles of the leg, in which irritability had been extinct, had undergone no alteration.

In reviewing these facts, and many other analogous ones, but which must be referred to different causes, we may consider it established that there exist cases of general progressive paralysis without impairment of the mind, which are characterized by the weakening, diminution, and destruction of irritability. It was interesting to compare with these results those furnished by the examination of the general progressive paralysis of the insane. M. Duchenne and I repeated, in September, 1849, our experiments on the paralytic patients placed in my lunatic asylum. The three individuals, who were the subjects of them, were paralytic in different degrees: the first had only intermittent stammering; the second was in the second stage, but considerably emaciated; the third, who had been for many years paralytic, could scarcely balance himself on his legs, and could not answer questions. In all, irritability existed in a remarkable degree.

We recommenced these experiments on the 15th of November, at the Bicêtre, in the presence of M. Delasiauve, physician to the hospital, and his pupils. Patients were taken at random from among the most seriously affected, those of longest standing, and those who had been for several months confined to bed; irritability was proved to exist in the six patients examined; two were in a state of extreme emaciation, and even atrophy, particularly in the inferior extremities; almost all these patients voided under them. We may therefore consider it as established that in general paralysis with mental alien-

ation, irritability is preserved. Doubtless, cases will occur in which these peculiarities will exist, although there have been as yet no signs of aberration; but we must not forget that in this disease three orders of symptoms occur; and that consequently sensation, and the power of motion alone may be affected, and intelligence continue unimpaired until long afterwards. M. Delasiauve mentioned to us a remarkable case of an individual who remained in the hospital for two years, presenting only the symptoms peculiar to general paralysis, afterwards the characteristic signs of madness appeared in twenty-four hours. Lastly, in paralysis of the insane, progressive paralysis connected with disease of the spinal marrow may occur.

As inferences from the preceding facts we may lay down that general paralysis occurs without as well as with mental derangement. This fact has been already pointed out by others.

The existence of general paralysis without the characteristic mental derangement described by authors, does not imply an alteration in the power of motion alone; for in all the cases which we have had an opportunity of observing, there were indications of insanity, or of defect of memory.

Even although the altered power of motion should be the only affection, it must be borne in mind that derangement of the intellect, of sensation, and of motion, may be manifested at unequal intervals. The absence of the exanthema in eruptive fevers does not change their nature.

As to the seat of general paralysis, we cannot admit that it must always be localized in the nervous centres. There are, according to our observation, some forms of general paralysis, which are dependent on the spinal marrow, others on the great sympathetic; some which are peripheral, many which are not connected with any appreciable lesion of the nervous centres; and a certain number which depend on diseases of the brain.

In fine, therefore, we may consider it is an established fact, that there exist two great classes of general paralysis, of which in one, that of insane paralytics, muscular irritability is preserved in all its degrees; while in the other, that of paralytics without mental derangement, both irritability and the power of motion diminish, grow feeble, and are lost in proportion as the functional disease advances.

The general progressive paralysis of the insane also presents two varieties: the first, by much the more frequent, is that which seizes individuals in the flower of their age, and the chief intellectual derangement of which is characterized by ambitious madness, or excessive self-esteem; the second, less frequent, attacks more especially individuals already advanced in life, although it is also observed in other adults, and presents the symptoms of dementia, and particularly weakness and loss of memory.

The seat of general paralysis ought not to be localized as it has hitherto been; this great functional derangement may depend upon very different lesions of the nervous system, all parts of which are, it seems to us, jointly and severally liable to be affected.—*Annales Médico-Psychologiques*, October, 1850.

MEMOIR OF THE LATE JOHN C. DOUGLAS, M. D.[a]

It is with feelings of much regret that we record the death of this veteran obstetrician, who had been almost exclusively engaged in the practice of midwifery for nearly forty-three years. This event took place on the 20th November, 1850, in the seventy-third year of his age.

Of the names which are honourably identified with the Dublin School of Midwifery, that of Dr. Douglas will long hold a distinguished place. His essays upon the Spontaneous Evolution of the Fœtus, and on the Hour-glass Contraction of the Uterus, are in themselves sufficient to insure for him a lasting fame. We believe that few men have ever obtained so wide a reputation by so small an actual amount of literary production; and this is, perhaps, the best possible proof of the originality and merit possessed by his writings.

John Cuppage Douglas was the son of a medical practitioner in the town of Lurgan, county Armagh, where he was born on the 14th June, 1778. It being determined that he should follow his father's profession, he was sent to Dublin, to receive the necessary preliminary education; and in the month of June, 1800, he obtained the certificate of the Royal College of Surgeons of Ireland, qualifying him "to serve as surgeon to any regiment in His Majesty's service." To this document we find appended the names of Jebb (President), Rivers (Vice-President), M'Evoy, L'Estrange, and Piele (Censors). In the month of August, in the same year, he received the license of the Apothecaries' Hall, Dublin. On the 26th October of the following year (1801) he was appointed surgeon "to the Militia Regiment of Foot for the County Tipperary." How long he held this post is uncertain; but in February, 1803, he received the degree of M.D. from the University of St. Andrews, and in December, 1808, he was nominated assistant at the Lying-in Hospital, Dr. M'Cabe being his coadjutor, and Dr. Hopkins the master.

The transition from a military surgeon to a lady's doctor seems strange enough; but experience has fully shown that the one may not by any means disqualify a medical man for the other. Denman, as is generally known, was for many years a naval surgeon, and so was Dr. Granville. Dr. Henry Davies served for some time in the army; and, to come nearer home, the seven clasps attached to the peninsular medal of the present Master of the Lying-in Hospital[b], sufficiently attest that he once occupied a position, as a military surgeon, not less prominent than he now does as an obstetrician.

It was in the wards of the Lying-in Hospital that Dr. Douglas

[a] We are indebted to our esteemed friend and contributor, Dr. Alfred H. M'Clintock, for this biographical record of the late Dr. Douglas, a physician whom we knew sufficiently well both to value his professional worth and to admire his private character. [Ed.]

[b] Dr. Shekleton, from whom a valuable contribution to his department of the profession appeared in our last Number. [Ed.]

first made the observation which led him to suspect the accuracy of Denman's views respecting the process of spontaneous evolution of the fœtus. Having matured his own ideas on this subject, he gave them to the world, in the year 1811, in the form of a small pamphlet of twenty pages, entitled "An Explanation of the Process of the Spontaneous Evolution of the Fœtus." The truth and originality of the great fact, which it was the special object of this brochure to promulgate, are now universally acknowledged; but it is to be regretted that the author did not confine himself simply to its announcement. From an exaggerated idea of the practical importance of his discovery, he hazarded some conjectures which incurred severe reprehension, and which would, doubtless, have consigned to oblivion any work of less real merit. Dr. Douglas very soon afterwards saw with pain the imprudence of these remarks, and in the subsequent editions of his pamphlet they were entirely omitted. This incident we mention, to serve as a wholesome caution to young authors against indulging in over-sanguine anticipations. Our allusion to it cannot detract from the value of an essay of which it has, with truth, been said, that, "along with Dr. Clarke's reports and papers, it laid the foundation of the high repute of Dublin as a school of midwifery." This pamphlet elicited a long private communication from the celebrated Dr. Denman to the author, part of which Dr. Douglas published in the preface to the second and third editions of his work. The tone and spirit which pervade the entire of this instructive letter are deserving of the highest praise, and convey the strongest and most pleasing evidence of a liberal and philosophic mind, free from every taint of prejudice, and solicitous only for the supremacy of truth. This notice of Dr. Douglas' publication, from a man of such deserved eminence, was indeed most flattering; and we feel it is but due to him, as well as to the writer of it, to give here an exact transcript of its contents, as the greater portion of it has not hitherto appeared in print. This we do the more readily, as we are convinced its perusal will afford no small gratification, apart even from the interest that must necessarily attach to it as the production of so illustrious a man. The passages of Dr. Douglas' original pamphlet, to which reference is made, are inserted in the notes.

"Dear Sir,—I am much obliged by the favour you have done me in sending your pamphlet, explaining, with much ingenuity, the evolution of the fœtus, a subject of considerable importance in midwifery; and should sooner have made this acknowledgment, had I not availed myself of the opportunity, which the quietness of this great town gives me at this season, of going into the country.

"It would be very hard, indeed, if offence were taken at the difference of opinion which might be entertained of any published doctrine, as it would deny to others the privilege which all late authors assume, and every corrected edition of any work is an exercise of that privilege. For my own part, I am so far from taking offence by any freedom of criticism you have used, regarding what I had

written on the subject of the evolution, that I feel obliged by what you have said upon it in terms sufficiently flattering. On this ground I am sure you will excuse the few observations I have ventured to make on your work.

"When the first account of the possibility of the spontaneous evolution was published, it was absolutely denied by every member of a society to which I had the honour of belonging[a]; but in the course of a few years after the promulgation of the facts, so many cases had occurred in the practice of different gentlemen, that the fact was not admitted only, but became one of the established doctrines of the schools. It is a great pleasure to me to think that the fact was admitted, and when the account of it was published in a more orderly manner, I did not think it right to send it into the world without some attempt to explain how it was effected. In your practice I presume you have met with many instances of it, but it may be supposed that one case would not be esteemed sufficient authority for forming an axiom, and determining the general question. The fact is a distinct question; the manner of the evolution is another. For the former I am not any longer answerable; it stands on other testimony; but I certainly have remained responsible for the explanation of the manner, and to defend this I am not very solicitous: yet I may observe, that the explanation is not given in positive terms; beginning with 'I presume,' leaving it as an opinion for future proof or disapprobation. If there be an error in the explanation, others may also err in their opinion.

"In page 5, line 15, it is said, that, 'each successive action brings the child's shoulder lower and lower,' which I do not recollect; and in the same paragraph, that 'the same propelling power, instead of producing a continuance of the same effect, should, by some *miraculous effort*, cause another part of the child to descend,' &c. Now, the word *miraculous* cannot be properly used in the description of a mechanical process; and, your first not being granted, the subsequent reasoning is done away. In a subsequent edition you will, perhaps, prefer 'unexpected.'

"Page 6[b], it is said to be inconsistent with reason; but we are speaking of the *fact*, and the acknowledged—no—*conjectural* effect of uterine contraction. The idea of a vacuum cannot be allowed to be a *just* but a *fanciful* representation, contrary to the laws of mechanical philosophy. Now, I have, myself, a *fanciful* idea of the manner in which the evolution of the body of the child is

[a] "The Society for the Advancement of Medical and Chirurgical Knowledge" is, we should suppose, the one here alluded to. [Ed.]

[b] "Now it seems to me that it would be inconsistent with reason, and with the acknowledged effect of uterine contraction, to admit that the uterus, when acting so powerfully as to force down that part of the child which was at its fundus, should, at the same moment, leave a vacuum in the neighbourhood of the contraction, to which a descended portion of the child should recede, contrary to all the established laws of mechanical philosophy," &c. *Douglas*, p. 7.

effected, by taking the ends of any flexible body (a piece of cane, for example), may be made to resemble the process; but not feeling myself sufficiently acquainted with mechanics, to enter into any controversy about the application of the principles of that science to the explanation of the processes of the human body, the powers of which are not fully understood by human beings, I have not been accustomed to allow more to mechanics than as affording us apt illustrations of certain effects produced by the powers of the human body. But when mechanical knowledge is brought forward, as has frequently been done, ostentatiously enough, as capable of fully explaining the processes of the human body, the imperfections of mechanics for such purposes are soon evident. I may further observe, that the mechanical knowledge of any writer, on the subject of midwifery, that I know, is not very deep or perfect. But, after a confession of my own dissatisfaction, or ignorance, we will drop this part of our subject.

"Page 7, line 7[a]. It has not, I believe, been *admitted;* and if it were, the admission would not amount to a proof. According to my observation, it seldom happens that the shoulder is propelled so low as you describe, that is, so low as that the shoulder shall press upon the perineum; if it did, I should not expect the evolution, but that the child was propelled, or would be propelled, in a doubled form, a thing not unfrequent in premature births, when the child is small, or capable of being much compressed, and being more readily admissive of such accommodating changes from its having been long dead. I wish you, therefore, to revise the whole of this paragraph.

"Page 9[b]. The question no longer remains, whether it be reasonable to expect that children undergoing the evolution should be born alive, without any subterfuge, or any reason for thinking the pelvis was unusually large, or the child uncommonly small. Line 12[c]. No doubt or misconception of the fact remains; it is the manner, &c., in which this *grand* operation of nature is performed; and you then come to the precise situation in which the fœtus is to be found, in different stages of the process, and immediately prior to its expulsion. Being persuaded that the same end is produced with considerable variation in the manner, I confess your description gives

[a] "It is admitted by every person who has been concerned in the management of labour, where this mode of parturition had been effected, that shortly before its occurrence the shoulder of the child had been forced so low into the pelvis, as to appear at the os externum; that the thorax had occupied a great portion of its cavity, and was so impacted in it as to render it impracticable for the hand to be passed up for the purpose of turning," &c.—*Douglas*, p. 7.

[b] "It would be little less than absurd to expect a child to be born living after such a process; we may, however, admit the mere possibility of so desirable a termination, provided the pelvis be very large, the child rather small, and the pains so efficient as to complete the delivery in a short space of time."—*Douglas*, p. 9.

[c] "To prevent any misconception of this grand operation of nature," &c.—*Ibid.*

me the idea of your having taken it from a single case. The other part of your description has also the appearance of being conjectural, but I may be mistaken; but the whole of the description goes, in my mind, not to show the manner of evolving, but of doubling. In the succeeding paragraph the explanation is more minute. The position of the child, and other circumstances, I think, must necessarily vary, whether the anterior parts of the body offer to the back of the parent or otherwise. But, if the difference between evolving and doubling be preserved distinctly, the rest appears to be of less consequence.

"Page 11, line 7. I have no doubt of your description being correct in the case you describe; but if it be apprehended that there is some difference of manner in each case, we must have some difference in the manner in which each case is described, and a variety of opinions will be formed. Your manner will be contested among the rest, and not allowed, perhaps, to be more easily comprehended.

"In the three first cases which occurred to me, having no suspicion or expectation of the event, these were printed on a separate paper and given to the pupils, for their use, and the purpose of disseminating a knowledge of the fact. In those cases, I can assure you, that, finding it impossible, or judging it improper, to continue any attempt to turn the child while the pains were very strong, I desisted, waiting till these were abated. But the pains continuing, and the child descending, I expected the child would have been forced into the world in a doubled state; but in all the stated cases, the breech and inferior extremities were pushed before the other parts, and first expelled. But the fact, as I said before, was the only thing about which I was solicitous, and perhaps cared less about the description of the manner.

"Page 13, line 3[a]. The word 'explanation' would be full as proper as doctrine. Why is it said that in original presentations of the breech, the child is rarely protruded *so low*, when, *generally*, in such presentations, it is altogether expelled by the force of the pains, without any assistance?

"Page 14. The proof of fewer deaths happening in child-bed, and the preservation of more children, would decide the question of improvement in the art; for, if neither of these is actually the case, I should not give my assent. There are very frequent instances of death in child-bed in Plutarch, especially in the life of Pompey (as I recollect), and then, as now, more frequently among people of rank, in proportion to numbers. The first attempts to improve the art, especially with instruments, were, in my opinion, injurious, and so continued to the date of the forceps, which, when first brought

[a] "I have further to remark on this point, that if Dr. Denman and others, who have known this evolution to be effected, will allow that they have always found so much of the child expelled as I have described, it would amount to a confirmation of my doctrine; because it is well known that in original presentations of the breech, the child will rarely be protruded so low by the mere action of the uterus."—*Douglas*, p. 13.

into use in this country, did much mischief. The tokens of real improvement in practice are, the almost total discarding of instruments of every kind. Much was done in the first instance by Ruysch, and very much afterwards by Dr. Hunter, who, I believe, never once used the forceps. The pomp of operations, and the immediate reputation attending the performance of them, did the mischief. Now, nobody's reputation stands on any other ground but his success, and, in fact, the public have no other mark by which to judge of abilities.

"I am still of opinion that the knowledge of the evolution leaves the business of turning children on the ground on which I have set; in presentations of the arm, turn, if you can, without the hazard of doing injury to the mother, and with a probable chance of preserving the child; otherwise, let it alone. But it would be a bad doctrine, in my opinion, to say, *never* turn children, 'because, by and by, they will—may—evolve.' It did, however, strike me, that such a construction might be put upon what you advanced in your work, and I persuade myself you will give this part of your subject full consideration; otherwise, you may eventually be the author of much mischief[a]. These are the observations which occur to me; and I must entreat you to pardon the repetitions and errors I may have committed. Will you allow me to consider this long letter as a proof of my respect for a gentleman who is taking pains for the improvement of his profession? There may be many opinions which require to be ascertained, and many practical rules which are not yet firmly ascertained. These, I hope, you will investigate, and set them in a more satisfactory point of view. Wishing you all success,

"I remain, dear Sir,

"Your most humble and obliged Servant,

"Thomas Denman.

"*Mount-street, London, 10th October*, 1811."

When we consider all the circumstances attending this letter,—the delicate and private way in which it was communicated, the relative position of the two men, and the object of Dr. Douglas' paper, which avowedly was to impugn the correctness of Dr. Denman's explanation of the process of evolution,—it must, we think, be confessed, that it tends most materially to exalt the character of its author, and to enhance his claims to our admiration and respect. Well would it be for medical science if her votaries would always exhibit the same forbearance and consideration towards each other, in their struggle for literary fame, and the same disinterested regard for the establishment of truth.

It should, perhaps, have been mentioned before, that in the

[a] The reader will perceive that these remarks have reference only to those passages in the first edition of Dr. Douglas's work, which were entirely expunged from the subsequent editions.

month of February, 1810, Dr. Douglas received the "*Testimonium*," or medical diploma, of Trinity College, Dublin,—a form of degree now abolished; and in the latter part of the same year he was admitted a licentiate of the King and Queen's College of Physicians in Ireland. Upon the expiration of his official connexion with the Lying-in Hospital, the thanks of the committee were conveyed to him in the following terms:—"That the thanks of this Board be given to Dr. Douglas for his extraordinary attention to the duties of his office during the time of his being Assistant to the Institution."

It has been told to us, on good authority, that, during the first year of his private practice, after leaving the hospital, he was so unfortunate as to meet with two cases of ruptured uterus, which so preyed upon his sensitive mind, that he had almost resolved to quit the profession if another case of the kind occurred to him.

Dr. Douglas' next appearance as an author was in the early part of the year 1820, when his "Observations on the Hour-Glass Contraction of the Uterus" were read at the College of Physicians of London, and afterwards published in the third volume of the Transactions of that body. It was mainly through the instrumentality of the late Dr. Gooch, that his communication got insertion in the pages of the College Transactions. That this was to be esteemed a considerable honour may be inferred from the very trying ordeal to which each paper was subjected. Dr. Gooch, in a letter to Dr. Douglas, thus describes it:—"When papers are offered to the College of Physicians, they have first to be read before the College assembled; they then have to circulate from house to house, among a certain number of the Fellows; they then have to be balloted for. Your paper has not gone through this tedious process; so that, even now, I cannot tell you whether or no it will be printed; but I have little doubt about it." (*20th April*, 1820).

In this short paper, the author's object was to establish two points, both of which were opposed to the doctrines then prevailing. The *first* was, that the hour-glass contraction of the uterus was rarely, if ever, a primary cause of retention of the after-birth, but merely secondary to morbid adhesion or to inertia, and was induced by the timid or ill-directed attempts of the practitioner to withdraw the placenta when detained by either of these causes. The *second* point was, that the stricture existed, not, as was then taught, in the middle of the uterus, but at the upper part of the cervix,—the os internum, as it is called. The testimony of subsequent observers has proved the general correctness of these two positions. In reference to the former, especially, we may be permitted to quote the words of an eminent living author, Professor Meigs, of Philadelphia:—"I have never seen an hour-glass contraction without adherence of the after-birth; and I take it for granted that, as soon as an hour-glass contraction is discovered, there is discovered along with it the indication to deliver, there being no reasonable hope that a spontaneous delivery will take place." And again he says:—

"I cannot well conceive of an hour-glass contraction, independently of a preternatural adherence of the after-birth to the womb"[a].

In the early part of the year 1820, Dr. Douglas received, in the form of a circular letter, a list of queries from the Board of Health, on the subject of puerperal fever. His replies to these interrogations, together with some additional observations on the disease in question, he afterwards published in the third volume of the Dublin Hospital Reports. This paper attracted much notice, as the author took a wider and more comprehensive view of the disease than most preceding or contemporary writers. He dwelt in particular upon the close resemblance subsisting between malignant or epidemic puerperal fever, and erysipelatous inflammation,—a point, we may remark, to which the attention of pathologists has of late been much directed. His classification of puerperal fever, Dr. Rigby has pronounced to be "not only one of the earliest, but, in his opinion, one of the most correct," and is the one adopted by this author in his System of Midwifery. Appended to this article is a short account of a very singular case of ruptured perineum, in which the fœtus was expelled through an enormous rent, "partly comprised in the perineum laterally, partly in the left labium pudendi, but chiefly in the integuments of the thigh."

These three papers constitute the sum of Dr. Douglas' published writings, and from their acknowledged value, as well as their remarkable perspicuity of style, it must be regretted that he did not give to obstetric science some other contributions. But in this forbearance there is, perhaps, much cause for admiration. When a man begins to write, and is successful in his first attempts, how seldom is it that he knows when to stop; and anything good that may have come from his pen is often sadly diluted with much that is devoid of value or originality. Not so, however, with regard to the subject of the present memoir. He seems to have acted wisely, on the principle that, unless there is something of real importance to be communicated, it is better to refrain from writing; and for this he surely merits our approbation. Whilst resident in the Lying-in Hospital, and for some time afterwards, we believe, Dr. Douglas was in the habit of delivering courses of lectures upon midwifery and its allied subjects.

In the year 1822 Dr. Douglas was presented with a diploma constituting him an Honorary Fellow of the Medical Society of Philadelphia, of which body the celebrated Dr. Dewees was then President, than whom there could not have been any one more competent to judge of the merits of his writings, or to pronounce on his claims to this distinction. In 1829 he became a member of the Association of the King and Queen's College of Physicians of Ireland; and he subsequently filled the offices of Vice-President and President of that Society. Lastly, in 1832, he was elected an Honorary Fellow of the King and Queen's College of Physicians in Ireland.

[a] Obstetrics: the Science and the Art. Philadelphia: 1849.

Throughout a long series of years Dr. Douglas was engaged in extensive practice, as an accoucheur, in this city. His conduct towards his patients was always marked by extreme tenderness and consideration; and in his intercourse with his professional brethren he invariably acted up to the golden maxim, "do as you would be done by." It is not to be wondered at, therefore, that he should have entirely gained the esteem of the former and the respect of the latter. He corresponded occasionally with some of the most distinguished physicians and accoucheurs of the day. Amongst some papers which he gave the writer of this sketch a short time since, little anticipating the use that was so soon to be made of them, are to be found the originals of letters from Drs. M. Baillie, Denman, Dewees, Paul Dubois, Merriman, Burns, Gooch, Ingleby, H. Davies, Rigby, &c.

Dr. Douglas' death was occasioned by a sudden and unexpected apoplectic attack, which proved fatal in twelve hours.